

FEBRUARY 1915 No. 110

Issued Every Month

For Free Distribution to Users
of Machine Tools

HITCHCOCK'S MACHINE TOOL LIST

A Reference Book for Buyers
of Iron Working Machinery

Published by
A. H. HITCHCOCK
1220-1235 Caxton Building
Chicago

STAMPINGS

Why try to turn out your own sheet metal articles and parts when you have not enough work to keep a special department continually busy? The overhead on idle machinery eats up your profits—and more than likely you'll be operating at a loss.

G.P.&F. Service
Knowing How Since 81

places at your command a 15 acre plant, modernly equipped—expert workmen—an engineering staff specialized in sheet metal work—and 34 years' experience in Stamping, Spinning and Drawing in practically all metals.

Our organization with its extensive facilities assures you high quality work—promptly done and shipped, and at a low cost.

Send sample or blue print for estimate. State quantity desired. Undoubtedly you are casting some part that could be produced better and at a lower cost by stamping.

Also equipped for Porcelain Enameling.

Geuder, Paeschke & Frey Co.

1321-1700 St. Paul Ave.

Milwaukee,

Wisconsin

Screw Cutting Economy is a matter of Method

EVERY screw machine job requires a certain number of operations regardless of the method for doing it.

The Acme Multiple Spindle Method uses enough tools to do all the operations at once.

It works all the tools at the same time and so produces finished parts at the rate of the longest single cut on the piece.

And generally heavy operations can be divided—increasing the production 2 or 3 times.

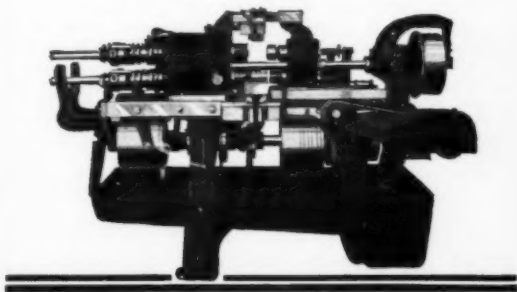
Why not send a sample of the screw machine work that you use and get Acme Automatic estimates—without obligation. Sizes up to 2¼" diameter and 10½" long.

Catalog 9 where requested.

**THE NATIONAL-ACME
MANUFACTURING CO.**

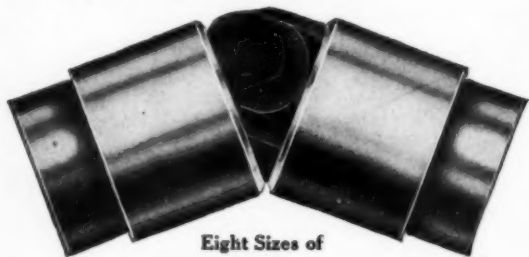
SIXTH CLEVELAND CITY

NEW YORK-BOSTON-CHICAGO-DETROIT-ATLANTA-MONTREAL



G. & P. Universal Joints

For use on adjustable Gang Drills and Wood Boring Machines; on the moving feed shafts of Milling, Grinding, Boring, and various Special Machines; for driving self-aligning Boring Bars; for operating mechanisms for Revolving Ventilating Funnels on Steamships; for adjusting mechanisms for Gun Carriages; on Printing Presses and other Paper Handling Machinery; for connecting engine shaft to propeller shaft on Motor Boats, and for all similar purposes.



Eight Sizes of

Strong, Positive Angular Drives

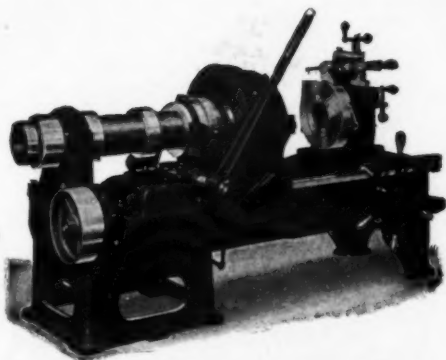
From $\frac{1}{2}$ inch to $2\frac{1}{2}$ inches, varying in size by quarters of an inch, with solid blank ends

They transmit a thrust or tension without play or looseness in any direction. All wearing parts are thoroughly case-hardened. They have no sharp edges to wear other parts. They have no screws or small parts to get loose. They have given many years of satisfactory service in this country and abroad, under all conditions.

Tell us size of shafts to be connected, r. p. m. of joint, the angle, the h. p. to be transmitted, and tool or machine you wish to drive, and let us recommend a Universal Joint for your purpose.

Let US worry over your requirements

GRAY & PRIOR MACHINE CO., Hartford, Conn.



Power Pipe Machines

From A to Izzard

EVERYTHING in Power Pipe Machinery, for $\frac{1}{4}$ -inch to 18-inch pipe.

If you want the fastest machine you have ever seen for threading one size pipe in large quantities, we have it.

If you want the handiest thing there is for threading many sizes, in which the changes are quickly made without removing a screw, we have it.

If you want one for modest needs or for the heaviest requirements, we have it, at a very moderate price for quality.

And remember, B. & K. Pipe Machines are made for hard, practical work—to be handled without gloves; they are equipped with the famous Peerless Adjusting Mechanism, and they have built into them an experience of over 30 years.

*Put your pipe threading problem up to us.
It is our business to solve it—satisfactorily.*

Bignall & Keeler Machine Works
Edwardsville, Ill.



Modern Multiple-Production

With F. & S. Patented Four-Sided Tool Posts

YOU DON'T HAVE TO BUY a new machine to increase production—you can do it with our new Tool Post, and at very small cost.

No matter what make of lathe yours may be, we can transform it into a multiple-production machine. Just state the size of the dovetail on your lathe carriage and height to lathe center—we'll do the rest.

Are You Interested in Making Shrapnel?

This Tool Post is particularly adapted for its manufacture, and if you will write us we will send full details. You incur no obligation.

We have some interesting facts to submit

Fay & Scott, Dexter, Me.

Looking Forward

With Experience as a Guide

When a man lives only in his past and ceases to look forward, his days of usefulness are over.

But when he makes use of his experience as a guide to further accomplishment, he is bound to get somewhere.

New Haven Lathes

—are the result of a careful study of present requirements, while looking forward to anticipate future needs, with our experience of over 60 years as a guide.

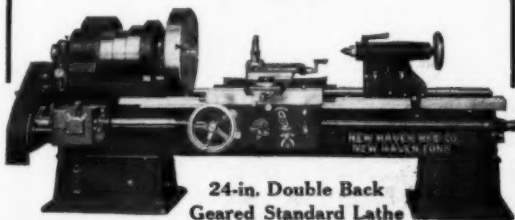
As a result, "New Havens" are built with the excellence of detail that only experience can teach, coupled with that thorough modernism which results from a constant anticipation of the requirements of tomorrow.

Our long experience in manufacturing also enables us to build "New Havens" at a minimum cost for quality—a saving which we pass along to our customers.

Take them either way—price for quality, or quality for price—and "New Havens" are a good buy.

*18-in. to 32-in., various lengths, carried in stock
They are made up to 65-in. swing, of massive type*

New Haven Manufacturing Co.
New Haven, Conn.



A Straight, Smooth Cut

Through high speed or any hardened steel, brass tubing, aluminum or other soft metal, or wood and metal combined, is more quickly and cheaply made with the

Peter Bros. Abrasive Cutter

than in any other way. Saves the waste of material from notching and breaking, and the greater waste of time. Simple, inexpensive, a time and money saver every minute you use it. Pays its own cost.

15 Days' Trial at Our Risk

Two Sizes: 12", with ball bearing counter, cutting to 2½" diameter; adjustable gauge; swiveling table; imported ball bearings. 8" size, cutting steel to 1" square.

*Order of your dealer,
or write direct to us*

PETER BROTHERS MFG. CO.
115 Railroad St., Algonquin, Ill.



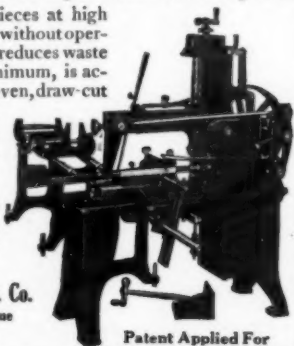
Cuts Entire Bar Automatically

The Marvel No. 5 Multiplies Production by Ten

Saws duplicate pieces at high speed automatically without operator's attention. It reduces waste of material to a minimum, is accurate, and has an even, draw-cut stroke. Consider the great reduction in both time and expense.

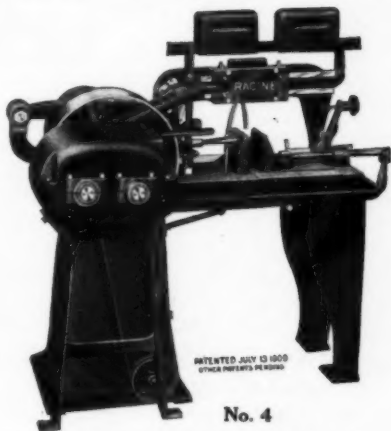
*Send for descriptive
circular of this machine
and other Hack Saws,
Punches and Shears.*

Armstrong-Blum Mfg. Co.
341 N. Francisco Avenue
Chicago, U. S. A.



Patent Applied For

The Newly Improved Racine High Speed Metal Cutting Machine



The Racine High-Speed Metal Cutting Machine does as much work as five ordinary Hack Saws, lowers the time and cost of cutting metal, and reduces the blade expense 100% over any other machine in the market.

This machine has a three-speed transmission, and with it you can cut any metal at the proper speed, practically giving you three machines in one.

This machine never fails to clear the blade on the non-cutting stroke—it has a Patented Positive Lifting Device.

Write today for Catalog and free trial offer

Racine Tool & Machine Co.

1500 Junction Ave. S., Racine, Wis., U. S. A.

Pattern Shop Machinery

Special Prices if you refer to this ad.



Band Saws

Chicago No. 00 27 in. Wheels

" No. 0 32 " "

" No. 1 36 " "



Saw Tables

Chicago No. 5 Stationary Table

" No. 9 Tilting Table

" No. 10

Boring attachment if wanted.

Jointers

8 in., 5 and 6 ft. tables and guard.

12, 16, 20, 24 and 30 in., 7 ft. tables and guard.

Trimmers, Lathes, Core Box Tools, etc.



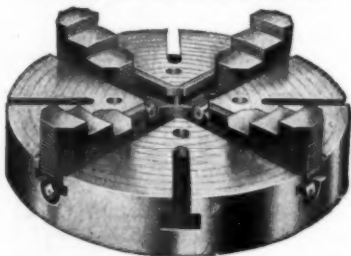
Ask for full descriptions

Chicago Machinery Exchange

1214-1228 Washington Boulevard, Chicago

The Solving of Chucking Problems

Is Our Special Line of Work



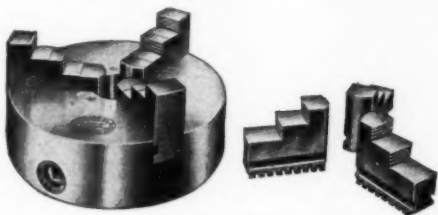
There is a Sweetland Chuck for All Your Chuck Needs

Just tell your chucking troubles to

THE HOGGSON & PETTIS MFG. CO., New Haven, Conn.

Union All Steel Geared Scroll Chucks

Meet the Demand for an Especially Strong Universal Chuck



For modern turret machinery, or any of the modern "heavy duty" machines, something stronger than the ordinary iron body chuck is demanded. The Union All Steel Scroll Chucks will stand any strains. All parts are of the best material and well designed.

Other styles of chucks with steel body are the Four Jawed Independent and the Scroll Combination Chucks.

Write us for information

Union Manufacturing Co.

New York Office,
26 Cortlandt St.

New Britain, Conn.

Makers of a Complete Line of Chucks



A Wonderful Combination In Riveting

- | | | |
|---|--------------------|---|
| { | Speed: | one rivet per second. |
| | Uniformity: | each rivet headed with same degree of tightness or looseness as desired. |
| | Finish: | perfectly formed rivet heads, highly polished surface, no hammer or tool marks shown. |

Grant Noiseless Rivet Spinning Machines, are the only machines built that will accomplish the above.

Catalog?

The Grant Mfg. & Machine Co.
C. E. Station, Bridgeport, Conn.

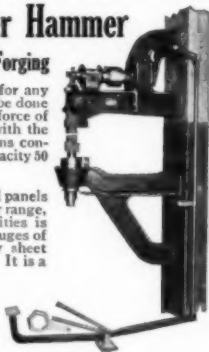
"Quickwork" Power Hammer

For Metal Working and Light Forging

Wonderfully handy and efficient for any work, including forging that can be done with a light power hammer. The force of the blow is accurately controlled with the foot lever, while its rapidity remains constant, a feature which gives it a capacity 50 per cent greater than any other.

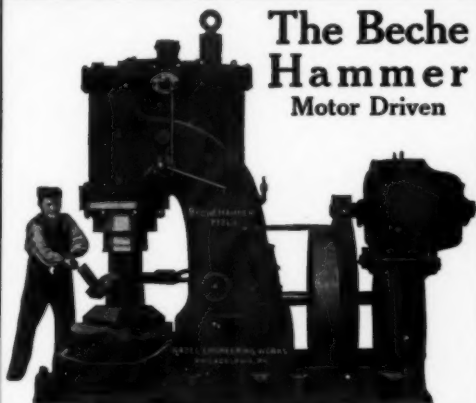
Designed for convexed or concaved panels for auto bodies, it has a much wider range, and in its various sizes and capacities is adapted to working the heavier gauges of metal used by coppersmiths, heavy sheet iron workers, boiler makers, etc. It is a great time saver.

My "Quickwork" Catalog of Rotary Shears and Sheet Metal Machinery is Yours for the Asking. Write for it.



H. Collier Smith

815 Scotten Ave., - - - Detroit, Mich.



**The Heaviest, Most Powerful, Efficient
and Economical Hammer of Its
Size on the Market.**

*Hammer and Compressor Combined, No Piston
Rods, Springs, Straps or Cushions.*

Simple—Durable—Reliable

Powerful, non-bounding, squeezing blow. Positive, flexible control. Long stroke. Variable blows at will. No adjustments. Dies at any angle. Belt drive, no countershaft. Motor drive, geared direct.

Sizes and Efficient Capacities of Beche Hammers

No. 1	No. 2	No. 3	No. 4	No. 5	No. 6
2" dia.	4" dia.	5" dia.	7" dia.	8" dia.	9" dia.

Write for Catalogue and Prices

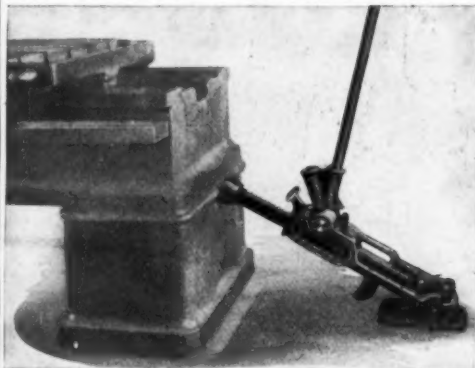
Nazel Engineering & Machine Works

Sole Builders for United States and Canada

5th and Luzerne Sts. - - Philadelphia, Pa.

There's A Simplex Jack

For Every Purpose



No. 310 Simplex Jack or Portable Crane
(With Pinch Bar and Chain—Not shown in cut)

Unequalled for pushing, raising or lowering heavy objects up to 15 tons, such as replacing derailed cars, moving heavy machinery, setting boilers, pushing cannons, caissons, tractors or trucks out of ruts, and for numerous other purposes where the essentials are dispatch, safety and ease of operation. Operative at any angle to 60 degrees. The "Simplex" received the only International Gold Metal awarded for the Safety of Jacks.



*Write for full description and free trial offer,
stating character of the service and
capacity desired.*

Templeton, Kenly & Co. Ltd.

Sole Manufacturers,

1024 So. Central Ave., -:- Chicago, Ill.



Terrell's Steel Equipment Is an Economy Proposition

It facilitates and cheapens the handling of stored material, providing just the size and kind of compartment—bin or shelf, open or closed—that each article requires, while our adjustable interchangeable units make it easily adaptable to varying requirements.

It reduces insurance, fire risk, storage space, maintenance charges and the cost of any desired rearrangement.

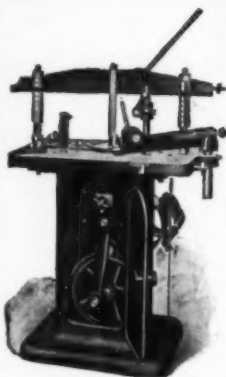
Terrell's Steel Equipment does not mean a big investment to obtain a small advantage over wood, but a very slight additional cost that is returned many fold in direct and indirect economies.

*All of which has been proven in many a plant
May we not figure on the needs of yours?*

Terrell's Equipment Company

Hall & Division Sts., Grand Rapids, Mich.

And we have interesting data on Steel Lockers, too.



Davis Keyseaters

Stand for Rapid Production

They meet every requirement as a manufacturing machine and can be economically used on large and small lots. Also adapted for Slotting, Oil-grooving, cutting Keyways in Bell-cranks and similar work.

Made in two sizes:

No. 1 Capacity $\frac{1}{8}$ in. to 1 in.

No. 2 Capacity $\frac{1}{4}$ in. to $\frac{3}{4}$ in.

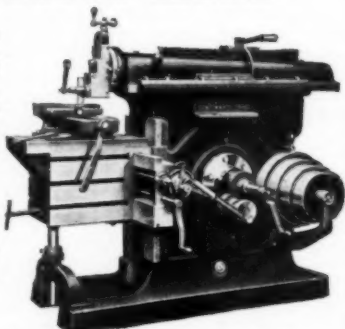
Write for complete information and copy Treatise on Keyseating, mailed free

The W. P. Davis Machine Co., 307 St. Paul St.,
Rochester, N. Y.

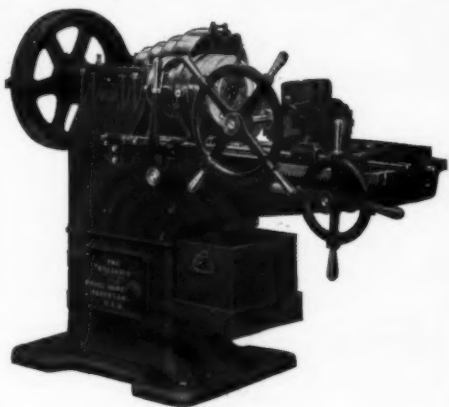
SHAPERS

12", 14", 16"
Plain Crank,
16", 20", 25"
B. G. Crank,
either Cone
Driven or
through
Speed Box.

24", 28", 32"
Geared
Shapers of
the Belt Shift
type.



The Smith & Mills Co. Station B.,
Cincinnati, O., U.S.A.



Reliance Bolt Cutters

Built in sizes $\frac{3}{4}$ inch to 6 inches, Single, Double and Triple, of the most up-to-date design. There is, also, a good reason why the "Reliance" is such a satisfactory machine for accuracy of threads cut, large production and low cost of maintenance, even in the hands of inexperienced labor. A lot of this reason is in the Opening Die Head, and we would like to tell you all about it. Interesting information for the asking.

The Foote-Burt Co., Makers
Cleveland, Ohio



**Handles
From
Steel**

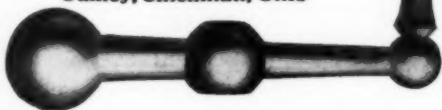
For power tools and similar purposes

Accurate, highly finished, complete on receipt, ready to attach. Manufactured as a specialty, we offer you the result of quantity production, in quality and price. Estimates given on large screw machine work, handles and screws of any description.

Write for price list and discounts.

The Cincinnati Ball Crank Co.

Oakley, Cincinnati, Ohio



For Quick Accurate Boring Use **Armstrong Boring Tools**

1=12 One Armstrong Boring Tool will take the place of a dozen forged boring tools



The bar may be extended from the shank or holder to any desired depth. Cutters are simply pieces of steel of stock size and shape that can be ground in a few minutes. Saves all forging and nearly all of the tool steel. Strain of cut grips cutter tighter.

Catalog for the asking

Armstrong Bros. Tool Co.

"The Tool Holder People"

308 N. Francisco Ave., Chicago, U. S. A.



Our complete line is on exhibition in Block 41, Palace of Machinery, Panama-Pacific Exposition, San Francisco.

The Cost of a Cigar

Saves Several Men's Time



Canton Cranes
can be
furnished with
Double Gears,
when desired,
at a small
extra cost.

The Canton Portable Crane and Hoist

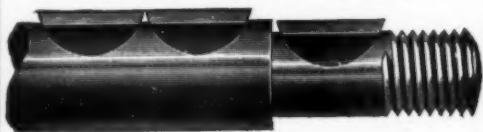
—draws no wages. Its total cost per day is the interest on the investment, plus depreciation, which might amount to the cost of a good cigar; and it's "The Handiest Tool in the Shop."

Take a turn through your shop in the morning, and see several men struggling with a heavy casting. Return in the afternoon, and there's another bunch moving a heavy piece of machinery. This is going on right along, while one man, with the "Handiest Tool," could do it easier, quicker and with greater safety; and it costs possibly a good cigar a day.

Write for Catalog E-8, which tells all about it.

Canton Foundry & Machine Co.
Canton, Ohio

"Whitney" Keys and Cutters For "The Woodruff System of Keying"



No. 16 CUTTER FULL SIZE

"Whitney" Keys are made in 114 different sizes and in three grades as follows:

Regular Carbon Steel Keys

Regular Carbon Steel Keys Case Hardened

Nickel Steel Keys Heat Treated

"Whitney" Cutters are furnished in both Carbon Steel and High Speed Steel, so no matter what your requirements, you will find in our line exactly the Key and Cutter to meet your particular conditions.

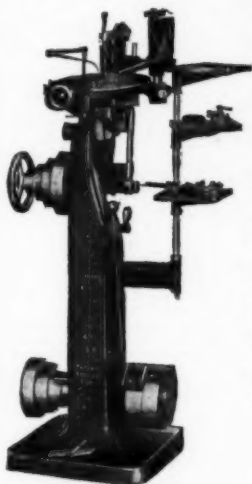
Catalog No. 10 Gives Full Particulars

**The Whitney Manufacturing Co.,
Hartford, Conn.**

Chains—Keys—Hand Milling Machines

Much Economy Is Effected

By Using Cochrane-Bly Filing Machines

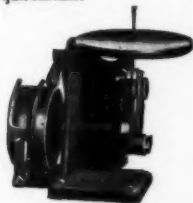


No. 2 Filing Machine

Several Government Arsenals use these machines, and they are considered indispensable in the hundreds of factories, tool rooms and machine shops in which they have been installed.

Accurate filing by hand is difficult for the expert; with this machine it is easy for the novice. For dies, metal patterns, jigs, small tools and tool room work generally, its great economy practically compels consideration. Also does metal jig-sawing, lapping, etc. Table is adjustable.

The No. 2 Machine is being operated by a number of manufacturers on productive work, and effects an economy where finish is required on duplicate parts too delicate to be otherwise machined, by using holding fixtures suited to the requirements.



Bench Filing Machine

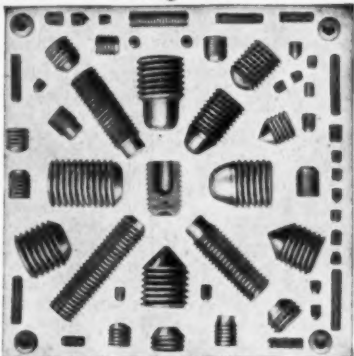
Limited space forbids telling all it will do. Send for Booklet and get posted on this big economizer.

Cochrane-Bly Company

Rochester, N. Y., U. S. A.

Also Cold Saws and Automatic Cold Saw Sharpeners

Allen Safety Set Screws



Send for circular No. 13 and sample screws (for testing).

ALLEN MFG. CO., - Hartford, Conn.



Find Out!

Vulcanized Fibre for Machine Parts

may be much better and cheaper
than the materials you are using,
and it's worth investigation.

Let us figure on these parts for your machines:

Gears
Frictions
Washers

Bushings
Thrust Washers
Guide Collars

Discs
Handles
Etc., Etc.

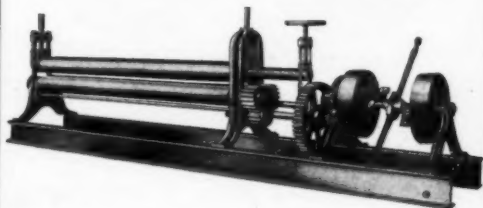
Or send us blue prints or samples of special parts.

Write for Catalog, which tells the story of the original Vulcanized Fibre and its uses, and contains price list on stock parts, sheets, tubes and rods.

American Vulcanized Fibre Co., Wilmington,
Delaware.

Plate Bending Rolls

Arranged for four-inch opening between the Top and Bottom Rolls, which permits the use of wood forms for many varieties of work.



Built in Sixteen Sizes—Motor or Belt Drive

Our Pyramid Rolls have many points in common with the Initial Type of roll. They are of the slip roll type, double back geared, and have an independent adjustment for the top roll. The outer housing is hinged to permit the removal of the finished circle when the work requires it, and the upper roll is raised for this purpose by means of a large hand wheel which depresses one end in order to elevate the opposite end. These rolls are equipped with our improved type of friction clutch pulleys, and are mounted on heavy "I" beams, well adapted to stand the weight and strain of the heaviest sizes.

We are putting out a complete line of punching and shearing machinery in both power and hand tools, also light and heavy duty bending rolls.

We do not overrate the capacities of our machines.

Write for catalogue and prices.

Slater, Marsden & Whittemore Co.

Box 444, Beloit, Wis.



Accurate Steel Balls

Send in your specifications and let us quote you on our line of High Grade Steel Bearing Balls in sizes $\frac{1}{8}$ " to $\frac{1}{2}$ ". There is no more highly polished or accurate ball than the Abbott Steel Bearing Ball, which we can furnish in any grade required.

The Abbott Ball Company

Elmwood District, Hartford, Conn.



"The Handiest Rack"

For Pipe, Shafting and Bars



An accident in our shafting room suggested it, and use showed it to have other merits than safety.

We sold it first to our friends; then to our friends' friends; now it makes friends wherever used.

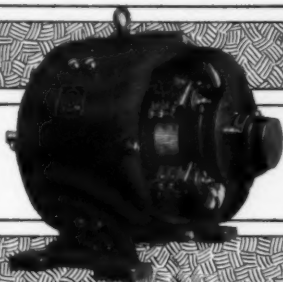
It keeps the stock in a fourth the space, where you can see what you have, where you can separate different sizes, where you can get at it easily and quickly. It saves space, time, fingers and toes, and is inexpensive for the saving.

*Worth more than it costs
Write for particulars*

Wm. S. Yohe Supply Co.

314 Lincoln Way, West.

Canton, Ohio



For Group Or Individual Drive

This Reliance Motor is suitable for driving your line shafts or for direct connection to machines that simply require constant speed power. You get all the usual advantages of motor-drive plus distinctive mechanical features if you select

Reliance Constant Speed Motors

Buy one Reliance Motor for a machine in your shops. Judge results for yourself. We are confident from our experience in hundreds of similar cases that your opinion would be expressed by repeat orders—our best proofs of pleased customers.

For details write for Folder 10 L.

Reliance Electric & Engineering Co.
1050 Ivanhoe Road, Cleveland, O.

Tucker's Safety First



Closed

Oil Hole Covers
Require but one hand to pump in the oil. Adapted to all kinds of mechanism having oil holes leading to a bearing.

*Send for Catalogue
Oil Hole Covers
and Compression
Grease Cups*



Open
Style A



Style C



Style E



Style F, Drive



Style D



Open



Closed

Compression
Grease Cup



Style B

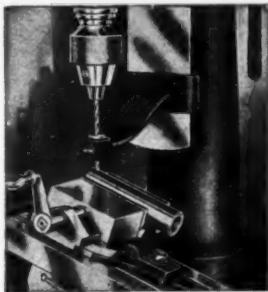


Rotary Head

W.C. & F.C. TUCKER, Hartford, Conn.

**Reduce
Your
Machining
Costs**

**With the
aid of**



Knight Milling and Drilling Machines

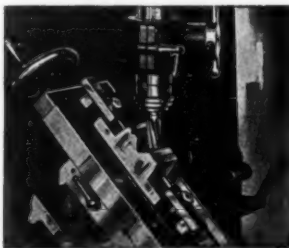
It's a great help in your struggle for Economy and Success, to have the assistance of machines that have two or three times the convenience and capacity of ordinary ones.

On tool room work and other hard machining you can reduce the time 20 to 50 per cent. They mill, bore and drill at any angle with only one setting of the work. Made in three sizes. Our Duplex Miller is also a big economizer.

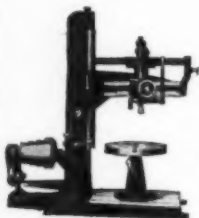
**W. B. Knight Machinery Company
St. Louis, Mo.**

***Our Booklet
gives a number
of valuable
practical
pointers.***

***Write for a
copy today.***

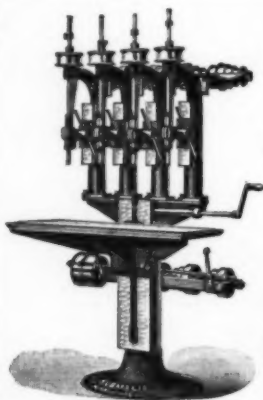


A Gang Radial Drill—instantaneous in action—large range of movement—easy to control—great speed of operation—quick to respond—"as the eye is."



The New Gang Radial Drill
Catalogue ready for mailing

THE WM. E. GANG CO.
Cincinnati, O.



The Well Known
H. G. Barr Line
of
Sensitive Drills

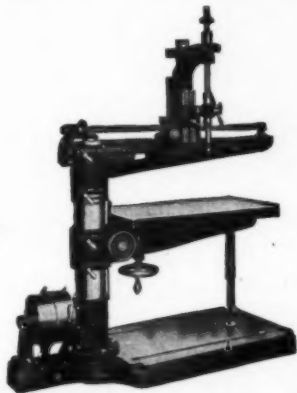
with one to six
spindles.

*Send for catalog
if interested*

Reed Drill Co.
43 Hammond St.
Worcester, Mass.

This T. & F. High Speed Radial

Is saving manufacturers much money drilling holes up to $\frac{3}{4}$ -in. in big, heavy pieces



WITH THE SPEED of the sensitive and the flexibility of the radial, this standard machine provides unusual economy. Users have doubled and even trebled their capacities. Its great adaptability gives it a wide range of usefulness.

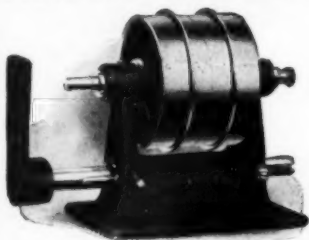
By combining heads of different types, such operations as drilling and tapping, or drilling and counterboring are accomplished without losing time changing tools and speeds. On many classes of work this fully equals the actual drilling time.

We have cost records to prove what we say.

Writing for them incurs no obligation.

The Taylor & Fenn Company
Hartford, Conn.

This Tapping Machine Now Has Greater Capacity

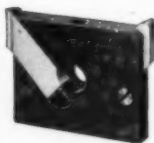


Burke's
No. "D" Taps
5/8" Holes
in
Horseshoe
Steel

BUILT throughout with exceptional care, our several sizes give service in proportion. Accurate, rapid and convenient, they give solid satisfaction. No. "D" sells for \$35.

Send for details today.

The Burke Machine Tool Co., Conneaut, Ohio



The Production Boss

"Don't Care A Cuss"

What make or kind of tool he uses—he wants **SERVICE**; he must have **continuous PRODUCTION**.

KELLY Adjustable Boring Tools and Floating Reamers give just the service he wants, or they are **returnable** at our expense.

Ask for Catalog H., our NEW ONE.

THE KELLY REAMER CO.
CLEVELAND, OHIO, U. S. A.

C. W. Burton Griffiths & Co., London, English Agts. 40 Domestic Agencies.

The "Barnes" Drills

8 in. to 50 in. Swing



OUR POSITIVE
FEED "makes 'em
talk," and why
shouldn't it? Simple
and Strong; been on
the market since year
1903 (not new and
untried); gives best
of satisfaction, and
will feed a drill or
boring bar without
a slip or hesitating
movement.

*Send for
Drill
Catalog*

W. F. & Jno. Barnes Co.
22 Ruby Street, Rockford, Illinois



The "Economy"

10 in. Bench Drill

Built upon the principle of our larger sensitives, it marks a step forward in the capacity of bench drills. Table swings around column, tilts to any angle, and has adjustable gauge for angular drilling. The forged and ground high carbon steel spindle has ball bearing thrust. The patented belt tightener is also a valuable feature. Furnished with 2-step cone and driving pulleys or 3-step cone and countershaft.

*Write for description of this and our
12 OTHER STYLES of Drill Presses*

ROCKFORD LATHE & DRILL CO., - Rockford, Ill.

Also 13, 14 and 16-inch Engine Lathes

Mechanics' Drilling Machines

This well-known line of drilling machines is now made better than ever in our modern factory, filled with up-to-date equipment. The Mechanics' Line includes:

Standard Uprights
14-inch to 36-inch

Gang Drills
2, 3, 4, 5 and 6-spindle

*We would like your inquiry
You will like our Drills*



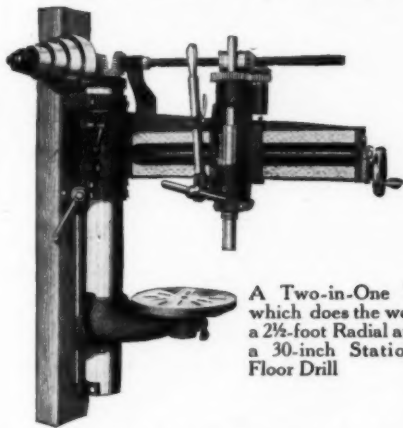
**23-inch
Back
Geared**

ROCKFORD MACHINE TOOL CO., - Rockford, Ill.

Manufacturers of Planers, Shapers and Mechanics' Drills.

The Canedy-Otto Wall or Post High-Grade Radial Drill

Which can be Built and Sold Much
Cheaper than One of the Floor Type



A Two-in-One Tool,
which does the work of
a 2½-foot Radial and of
a 30-inch Stationary
Floor Drill

This machine is particularly adapted to the shop where a radial is practically a necessity but where the price heretofore has been prohibitive.

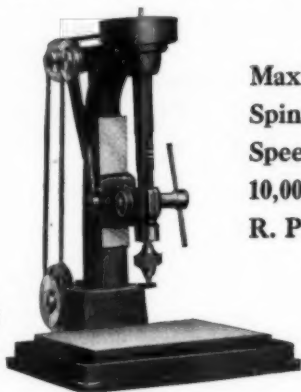
But the lower price is not the only consideration, for this is one of those all-around machines that is mighty handy in any shop, on account of its range, flexibility and adaptability to all kinds of drilling up to the center of a 64-inch circle.

*We would like to tell you how good it really is
And your inquiry involves no obligation to buy*

Canedy-Otto Manufacturing Co.
Chicago Heights, Ill.

Save Money

with this
High Speed Drill



Patents
Pending

**Maximum
Spindle
Speed
10,000
R. P. M.**

**Double Your Production on Holes
up to $\frac{3}{8}$ " in diameter**

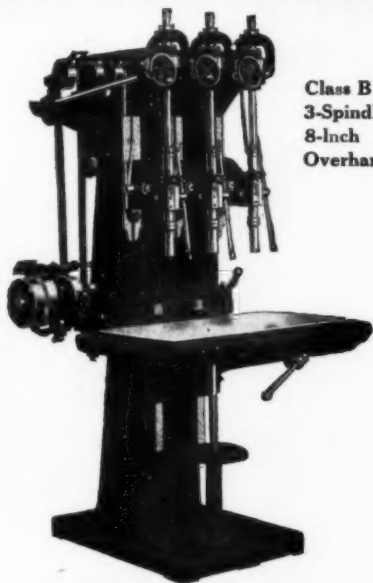
This machine is carefully and accurately built to give the greatest service. Equipped with Hess Bright Ball Bearings throughout.

Ask for Bulletin No. 502

Leland-Gifford Co.
Worcester, Mass., U. S. A.



Low Cost Drilling



Class B
3-Spindle
8-Inch
Overhang

The Henry & Wright Drilling Machines are making new records for efficiency and economy in every-day practical work, because our earlier types were record-breakers in themselves, and every new feature is a real improvement. The gearless power transmission, under perfect control, with frictionless bearings; the increased rigidity; the new spindle drive and shorter and stiffer spindle; the ease of adjustment and greater convenience of operation—these give a hint at their excellence as unusual labor savers.

May we not give you the particulars in full?

The Henry & Wright Mfg. Co.
760 Windsor St., Hartford, Conn.

Hundreds
Are Using

"M.E.C." Co

Other Hundreds Will—



THERE ARE GOOD REASONS: they are accurate, stand up to the most difficult work, day after day and have proven their superiority in doing work where others fail.

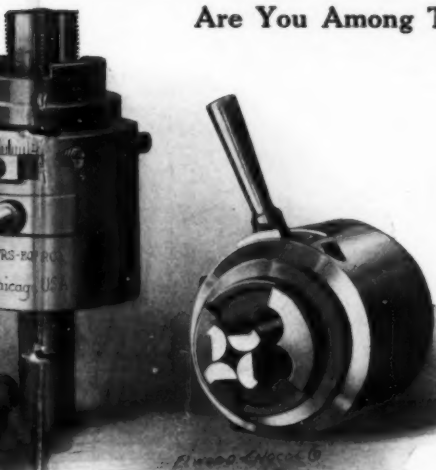
Taps are made from 15-32 in. to 3 in. in straight threads, including $\frac{1}{4}$ in. to $2\frac{1}{2}$ in. iron pipe sizes. Write for full particulars.

Avail yourself of our special trial offer.

Manufacturers Equipment Co., 76

Collapsible Taps

Are You Among Them?



collapse—they increase output 30 to 50 per cent—they
day and week after week. "M.E.C." Collapsible Taps have
others failed utterly. A 30 days' trial will convince you.

We also manufacture various styles and sizes of
"M.E.C." Air Chucks, and furnish complete equip-
ments of tools for brass and iron manufacture.

offer. No obligation if you don't buy.

o., 769 N. Jefferson St., Chicago, Ill.

Eventually

You will do your thread cutting with
a Geometric Die Head

Why Not Now?

There are *other* methods, and there are *cheaper* methods, but there is no method so *economical*.



Style "D" Die Heads

Try out a Geometric Die Head on your Screw Machine or Turret Lathe.

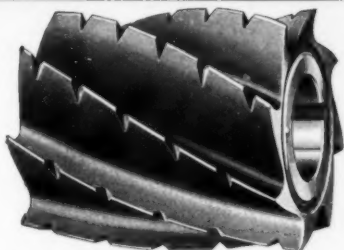
You will then get a combination of *perfect threads* and *rapid production*.

Tell us your requirements, and let us make you a proposition.

The Geometric Tool Company

New Haven, Conn.

Chicago Office, 547 W. Washington Blvd.



Brown & Sharpe Milling Cutters Produce Results

Designed for highest efficiency in milling.
You can rely on their uniform temper.
We are careful of the small details of finish.
Our large stock insures prompt deliveries.

Brown & Sharpe Mfg. Co.
Providence, R. I., U. S. A.

A full stock of Cutters at our Chicago Store, No. 626 Washington Blvd.

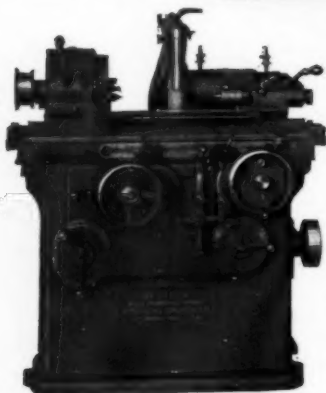
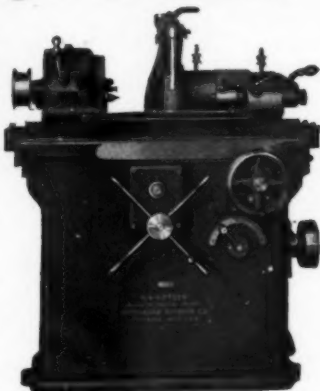


A Manufacturing Machine of Large Capacity

Fitchburg 6-15 Grinder

One that because of the power and rigidity embodied in it has a commercial accuracy and rapidity of production guaranteed beyond that of any machine of equal wheel capacity.

This machine affords ease and economy in operation because of its **Centralized Control**.

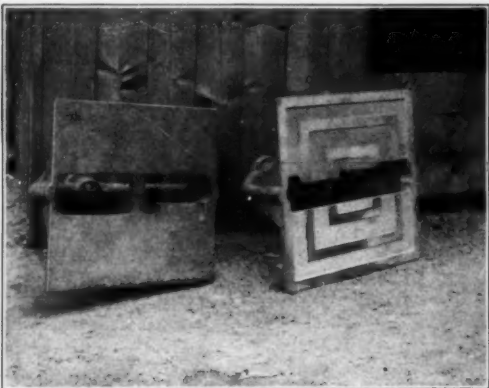


Its limits are 6"x15" work for straight or taper cylindrical grinding. Dead or live centers can be used—made in two styles. It can show you a marked decrease in floor space now required.

Durability and accessibility are made facts by its design. Details as given in our catalog will convince you.

Would you let this chance for lower grinding costs pass by? Write

THE FITCHBURG GRINDER CO., Fitchburg, Mass.



It Pays to "Make" Work for a Gardner Disc Grinder

The illustration above shows a casting which has been altered so that it could be surfaced on a Gardner Grinder. In its original form as shown at the left the area was too great for Gardner Grinding. Formerly a boring mill was used, three hours time being required to get a good surface.

The pattern from which this casting was made has been changed to give a casting as shown at the right. The area to be machined is reduced about one-half and the piece is now surfaced on a Gardner No. 24 in 6 minutes. As a further result of this alteration enough metal is saved on one casting to Gardner Grind about four castings.

There are hundreds of cases of flat surfacing operations where a slight change in the piece has rendered it suitable to Gardner Grinding finish. Outputs have been increased 5 to 50 times. Look over your work with a Gardner in mind.

Get our free literature.

Gardner Machine Company
Beloit, Wisconsin

Largest builders of disc grinders in the world.



No. 3 Tool and Surface Grinder

Vertical travel of table, 12"

Three point suspension of table,
absolutely preventing rocking.

Micrometer adjustment of table.

Head & column cast in one piece.

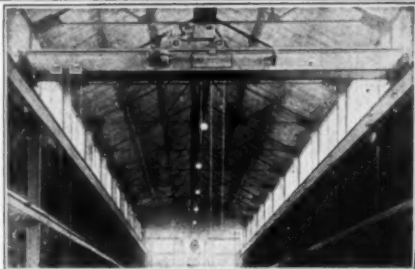
Both Surface and Tool end equipped
with **Valley City Adjustable
Protection and Exhaust Hoods.**

*A happy combination and a very
serviceable outfit.*

Write for quotations and circulars.

Valley City Mche. Wks.

Campau & Fulton Sts., Grand Rapids, Mich.



Floor Operated Electric Traveling Cranes

do not require an operator in constant attendance and are frequently as well or better adapted for handling material than the more expensive cab operated.

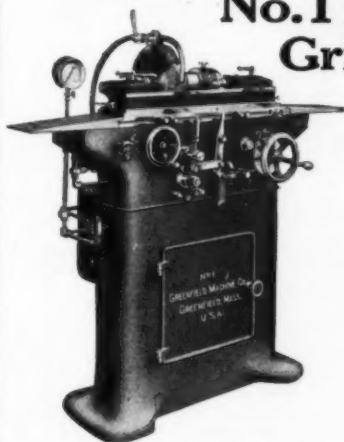
We make all types of overhead cranes and hoists.

The Euclid Crane & Hoist Company
Euclid, Ohio

The

Greenfield

No. 1 Plain Grinder



Takes
13½ inches
between
centers.

Swings
5 inches.

Grind your small cylindrical parts.

You can finish accurately by grinding, cheaper than any other way. It saves a lot on the cost of turning.

You can grind small work most profitably on our No. 1 machine. It is designed just for that. It is low in price, takes little power, requires small space and is an all-around economical machine.

In building this machine we have eliminated a lot of complicated mechanism; in fact we have embodied some new and very practical ideas in the table operation that are very interesting.

Just ask us for details.

Greenfield Machine Company
Greenfield, Mass.



Emery Grinders

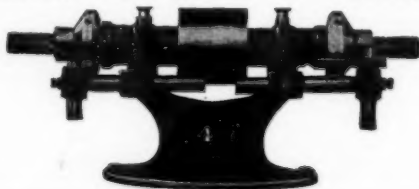
Better Ones for Your Money

They look like others, but are different in details of design and construction. Built like machine tools, with the arbors and collars accurately turned and balanced, and properly lubricated and protected against dust. They run easier, last longer and give better service. Made in quantities sufficient to keep down manufacturing costs, and the price. I can interest you in Bench, Column, and Cabinet Grinders, Foot Presses and Bench Tapping Machines. *Write me.*

E. O. PARTRIDGE

2047-9 Lake Street,

CHICAGO

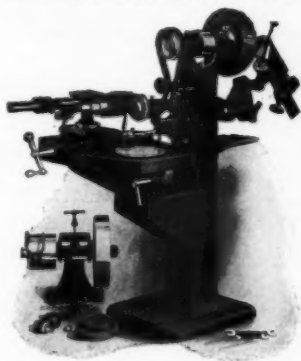


**This is An Inexpensive
Cutter, Reamer and Drill Grinder**

**It has Generous Range and Capacity
The Price is Within Your Reach**

Don't delay—look it up now!

Particulars, prices, etc., sent on request.



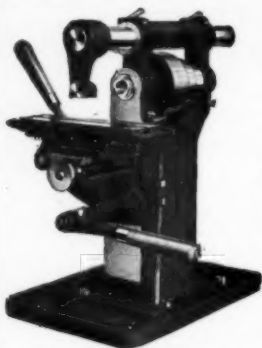
Style BX

We also make

**Drill Grinders—Surface Grinders—
Lathe Center Grinders—Universal
Grinders—Tool Grinders—etc.**

Wilmarth & Morman Co.

1185 Monroe Ave., Grand Rapids, Mich.



Burke's No. 3 Bench Millers

Are Seasoned Tools

Our system of tests insures accuracy, and our methods of construction make it permanent. Frames and parts are carried 6 to 8 months, after work begins on them, before the completed tools receive our final O. K., and all parts are finished and fitted with exceptional care.

Longitudinal feed, 6 in.; traverse feed, $3\frac{1}{2}$ in.; vertical motion of knee, $8\frac{1}{2}$ in.; table surface, $3\frac{1}{2} \times 12$ inch.

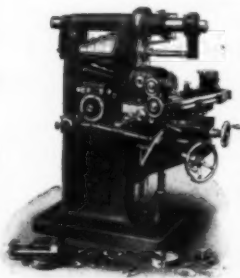
Write for Catalog, which also shows larger and smaller sizes.

The Burke Machine Tool Co.
Conneaut, Ohio

The New Rockford Back Geared Universal Miller

14 Positive Geared Feed Changes. 16 Speeds.

Table, $38'' \times 9''$. Range, $25'' \times 7\frac{1}{2}'' \times 18''$.



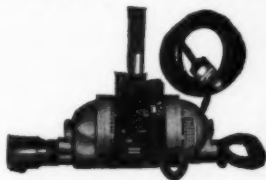
Redesigned throughout. Back gears now enclosed in main column. All gears machine steel. All bearings bronze. All feeds automatic. Flanged support stiffens overhanging arm, prevents vibration and increases cutting capacity. Modern to the minute.

We make others. Put your milling problems up to us.

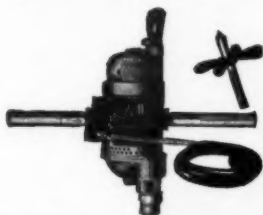
Rockford Milling Mche. Co.
Rockford, Ill.

Universal Motor Drills

For Use On Either Current



This drill is made in 3-16", $\frac{1}{4}$ ", $\frac{3}{8}$ " & $\frac{1}{2}$ " size. Gears run in grease. Motor air cooled, and is made to stand hard service. Sent on trial.



0 to $\frac{7}{8}$ Universal Drill

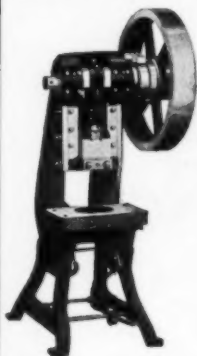
The motors used in these drills are Westinghouse motors, and operate on 25, 30, 40 or 60 cycle. 110 or 220 volts.

The U. S. Electrical Tool Co.
Cincinnati, Ohio

NEW YORK, - 50 Church St. CHICAGO, - 9 S. Clinton St.
BOSTON, - 12 Pearl St. ST. LOUIS, 511 Commercial Bldg.

Stock carried at branch offices.

How To Increase Output



Without increasing cost
is your problem today

HIGH DUTY
ROCKFORD
PUNCH PRESSES

Will solve it for you. Friction
is cut ONE-HALF and speed
increased. You get more work
at less cost.

*Investigate these PROFIT Boosters
Write today for catalog*

The Rockford Iron Works
Rockford, Ill.

DICKOW'S 10-Inch Universal Index Centers Are Big Money Savers



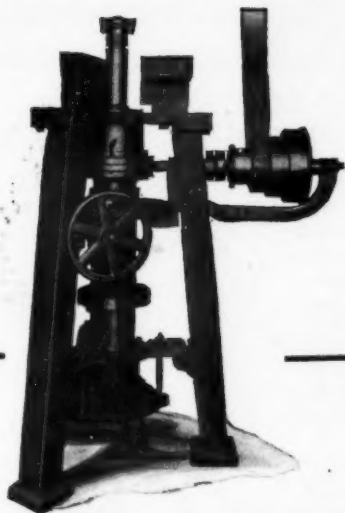
You save from \$40. to \$90. on
first cost, and many times that by
our simple construction. Any ordi-
nary person can operate them.

Accuracy guaranteed

Price Only \$85 Net F. O. B. Cars
Chicago

Sold by all dealers. Write today.

Fred. C. Dickow, 35 So. Desplains St., Chicago, Ill.



For Reboring Auto Cylinders

This machine cannot be excelled.

It is especially designed for reboring worn or scored cylinders and is adaptable for single, twin or enbloc types. The work is easily, quickly set up and accurately rebored with a finish that leaves nothing to be desired.

As the means of establishing a growing business of excellent returns it is far ahead of any ordinary proposition.

Manufacturers of Portable Cylinder Boring Bars, Crank Pin Turning Machines, Milling Machines, Pipe Benders, etc.

Write for catalog.

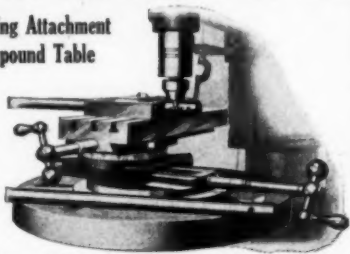
Pedrick Tool & Machine Co.

3644 N. Lawrence St., Philadelphia

A Big Convenience at a Small Price

Davis Milling Attachment and Compound Table

Converts
any Drill
Press from
14 to 42-in.
swing in
2 Minutes



ITS CONVENIENCE is out of all proportion to its small cost—way under \$100. Diemakers, patternmakers and small machine shops find it does 90% of the lighter milling as well as a \$1,000 machine. Cuts keyseats, clutch jaws, slots, grooves and cams. Combines economy and good work, to your profit. Write us.

Hinckley Machine Works, HINCKLEY, ILL.

Designed For Manufacturing

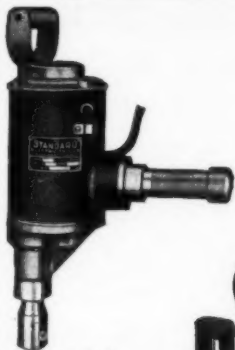


But built good enough
for the Tool Room.
If you have any doubt
about it, just try one.
Our two-speed Friction
Counter and plain In-
dex Center help you
to do the trick.

Send for circular

The Carter & Hakes Co.
West Winsted, Conn., U. S. A.

AGENTS—for New England and New York, Hill, Clarke & Co.
WESTERN AGENTS—Marshall & Huschart Machinery Co.,
Chicago, St. Louis, Indianapolis.



Universal Drill

"Standard" Electric Universal Drills and Grinders



"Standard" Aerial Grinder For Surfacing Rough Castings, etc.

Made in the **Universal** type for operation on both alternating and direct current. Also made for direct current only.

For grinding and cleaning castings, or polishing with felt wheel. Can be suspended from ceiling or traveler. Can also be used in close places and corners.

*Order a "Standard" on trial, and write for
new Bulletin and Circulars on Tests*

**Ask us
for list
of users**

**THE
STANDARD**
ELECTRIC TOOL CO.
CINCINNATI, OHIO, U. S. A.

**New York
Office:
30 Church St.**



Nos. 26 & 28

Two New Models

of presses just added to our line designed to meet the requirements where power, capacity and absolutely rigid construction are essential factors.

It will pay you to investigate our complete line of Arbor Presses.

Atlas Press Co.

313 N. Park St.,
Kalamazoo, Mich., U. S. A.

Lourie Manufacturing Co. Springfield, Ill.



Type "B"

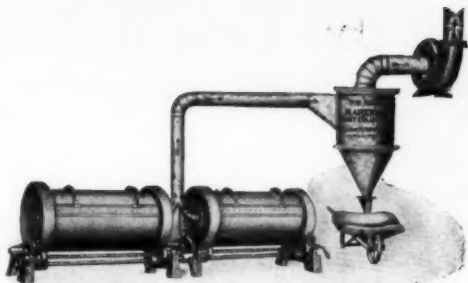
Make many styles and sizes of
Vertical and Horizontal

Hydraulic Forcing Presses

Hand or Power

Write for
Circulars
and
Prices





Saves Nearly Half the Power

With Morse Dust Collectors



A Customer Writes:

"This reduction in horse power is a great thing. Today we are operating the entire department with two 10s and one 5, making a total of 25 electric horse power, and before the installation of your Collectors we used 45 h. p. to do the same work."

Name on request.

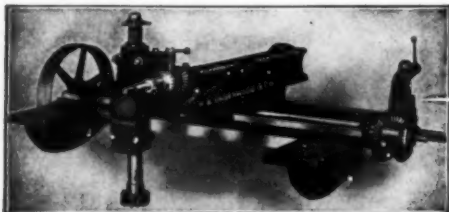
That's the story everywhere—in big plants and small ones, and with all kinds of difficult dust—the Morse saves power and repairs, and increases the efficiency of the men.

There are reasons. Read them in our Booklet.

The Knickerbocker Company
Jackson, Michigan

Cut the Time in Two

Use our Portable Milling Machine and reduce the time on your repair jobs fifty per cent



TAKE THIS TOOL to the job and fix it up *in place*. It saves more time than almost any other portable tool we make. Has power feed in both directions, and is usable in any position, horizontal, vertical or inclined. Operated by hand, small steam engine, air or electric motor.

Faces a valve seat 22x40x7 in., or does other milling of similar dimensions. Its rapid and accurate work gives universal satisfaction in railway and general repair shops. We can also build to suit your special needs.

OUR LINE OF PORTABLES FURTHER INCLUDES circular planer tools; radius and rotary planers; machines for truing eccentrics, facing domes, arms for facing cylinder flanges; crank pin turners; rotary flue cleaners; pipe benders; rail saws; armature and axle bearing borers; reflex water glass grinders; motors, etc.

Economize with Portable Tools. Write for Catalog.

L. B. Flanders Machine Works (Est. 1870)
H. B. Underwood & Company
1016-22 Buttonwood St., Philadelphia, Pa.

Second-Hand Machinery.

Lists of second-hand machinery, either for sale or wanted, will be published under this heading at the rate of **40 cents a line**, across the page, each issue, with a minimum charge of **\$4.00**. Sub-headings are counted as one line, but the name and address of advertiser are not included in the space charged for.

Write directly to the parties offering the machines for sale for prices and full descriptions. If you do not find what you require, use the post card inclosed with each book to make known your wants to the publisher.

FOR SALE BY

H. H. Ashenden,

Waterbury, Conn.

BOLT POINTER.

A new 1-inch Acme Bolt Pointer, with countershaft, just as it came from the manufacturer; can be used for bolt threading; for sale at less than half price.

FOR SALE BY

Industrial Supply Co.,

Keokuk, Iowa

COMPLETE MACHINE SHOP EQUIPMENT.

Bargains in Shop Tools, singly or in lots. Bought at Receiver's Sale. None through fire. Save middleman's profits. Exceptional opportunity. Send for list.

FOR SALE BY

New Haven Manufacturing Co.,

New Haven, Conn.

We have for sale the following second-hand tools, which are now in use, of modern type and in first class condition, with full and complete equipment:

Boring mills, vertical, 42, 44, 52, and 60", with two heads.

Drills, upright, 28" and 40".

Lathes, 18" to 28" swing, 8' to 14' long.

Planers, 24, 28, 34 and 40" square, 6' to 30' long.

FOR SALE BY

Wayne Machinery Co., Taylor St. & L. E. R. R., Fort Wayne, Ind.

RANDOM SELECTIONS

From our stock of over 600 machines,

Bolt cutter, No. 50 Green River.

Boring mill, 34" Colburn.

Drill press, 20" Aurora.

Drill press, 36" Aurora, p. f.

Engine lathe, 14"x8" Cisco, q. c. g.

Engine lathe, 18"x8" Lodge-Barker.

Machine tools and pattern shop machines for every requirement.

Write today for Wayne List, which fully describes our complete stock.

Engine lathe, 34"x20" back geared.

Hack saw, No. 4 Racine, hi speed.

Planer, 26"x26"x8" Pond, dbl. head.

Planer, 36"x36"x8" Powell.

Punch, Standard, single end.

Shaper, 16" Ohio, back geared.

FOR SALE BY

W. L. Perkins Machinery Co.,

30 Church St., New York

LATHES.

14"x8" Sebastian gap lathe, c. rest.

16"x8" Hamilton, compound rest.

16"x8" Reed, compound rest.

18"x8" Hamilton, compound rest.

18"x10" Rahn-Carpenter, comp. rest.

20"x10" Putnam, compound rest.

MISCELLANEOUS.

Boring mill, 30" Bullard, tur. head.

Key-seater, No. 1 Baker Bros.

Milling mche., No. 1 Garvin univ.

Milling mche., No. 3 Becker-B univ.

Milling mche., No. 2 B. & S. univ.

Pipe machine, 24" Saunders.

Screw mche., No. 2 W. & S., wire fd.

Planer, 24"x24"x8" Pond.

Shaper, 14" Juengst, horiz., crank.

Shaper, 12" Walcott, geared.

SECOND-HAND MACHINERY

FOR SALE BY

Rumely-Wachs Machinery Co., 121 N. Jefferson St., Chicago, Ill.

ENGINE LATHES.

16"x 6' Hamilton, q. c.	21"x10' Bradford.
16"x 6' F. E. Reed.	24"x10' Schumacher & Boye, q. c.
16"x 8' American, q. c. taper.	24"x24' Fifield.
18"x 8' F. E. Reed, taper.	28"x10' American.
18"x 8' Hamilton.	30"x14' American.
18"x10' Rahn-Carpenter.	30"x20' Lodge & Shipley, q. c.
20"x 9' Draper.	36"x12' Schumacher & Boye.
20"x10' Lodge & Shipley, q. c.	36"x14' Fifield.

UPRIGHT DRILLS.

20" Davis, b. g.	28" Sibley & Ware, sliding head.
21" Cincinnati.	28" Barnes, sliding head.
22" Lodge & Davis.	31" Barnes, sliding head.
22" Barnes, b. g.	32" Cincinnati, sliding hd., tapping.
23" Rockford, sliding head.	24" Baker Bros. heavy duty.
24" Cincinnati, sliding head.	40" Lodge & Davis, sliding head.

RADIAL DRILLS.

3' Fosdick, plain, tapping att.	4 1/2' Bickford, plain.
4' Fosdick, plain, tapping att.	5' Prentice, plain.

SHAPERS.

15" Hendy, friction.	16" American, b. g. crank.
16" Juengst, crank.	20" Kelly, crank.
16" Stockbridge, crank.	24" Gould & Eberhardt, b. g. crank.

PLANERS.

16"x16"x 4' Lathe & Morse.	36"x36"x 8' Fitchburg.
22"x22"x 8' Wheeler.	36"x36"x 8' American, two heads.
24"x24"x 6' Pond.	36"x35"x15' Woodward & Powell,
30"x30"x 8' Putnam.	(frog and switch.)

MILLING MACHINES.

No. 1 Brown & Sharpe, universal.	No. 2 Cincinnati, plain.
No. 1 LeBlond, universal.	No. 2-H Brown & Sharpe, plain.
No. 1 Brown & Sharpe, plain, (3).	No. 3 Kempsmith, plain.
No. 1-Y Brown & Sharpe, pl., (6).	No. 3 Cincinnati, plain, (2).
No. 21 Garvin, (2).	No. 3 Newton, plain.
No. 2 Brown & Sharpe, plain.	No. 3 Pratt & Whitney, plain, (2).
No. 2 Kempsmith, plain.	Nos. 3, 4 and 4-B Becker, vertical.

SCREW MACHINES.

No. 1 Garvin, 1/2".	No. 12 1/2 Garvin, power feed, 2".
No. 1 Brown & Sharpe.	No. 6 Warner & Swasey, pwr. fd. 2 1/2".
4x14" Pratt & Whitney.	4" Pratt & Whitney, automatic.
1x10" Pratt & Whitney, power feed.	No. 00 Brown & S., automatic.
1 1/2" Bardons & Oliver, power feed.	6 Stehley, automatic.
1-5-16" Foster, (2).	

TURRET LATHES.

No. 3 Bardons & O., Fox Monitor.	13" Gisholt, (new).
18"x6' Springfield, universal.	21" Gisholt.
2x24" Jones & Lamson, sldg. head.	No. 22 1/2 Garvin.
18"x 6' Lodge & Davis, (2).	24" Conradson.
18" Windsor.	25" Warner & Swasey, universal.

PRESSES.

No. 18 Bliss, o. b. i.	No. 30 Bliss, arch.
No. 19 Bliss, o. b. i.	No. 6 Bauroth, geared, o. b. i.
No. 42 Bliss, o. b. i.	No. 12-A Advance, drawing.
No. 119 Crosby, o. b. i.	No. 2 Billings & Spencer, trimming.

MISCELLANEOUS.

Boring mill, 30" Bullard.	Keyseaters, Nos. 1 & 2 Davis.
Boring mills, 42" Colburn & Bullard.	Keyseaters, Nos. 2 & 3 M. & M.
Boring mill, horiz., No. 1 Barnes.	Keyseater, No. 3 Baker.
Gear cutters, 26" & 48" B. & S. auto.	Punch, Kling Bros. 19" throat.
Grinder, plain, No. 1 Landis.	Thread miller, 6x48" Pratt & Whitney.
Grinder, plain, 10x50" Norton.	

Write for complete list of tools.

SECOND-HAND MACHINERY

FOR SALE BY

Prentiss Tool & Supply Co., New York, Boston, Buffalo, Syracuse.

BORING MILLS.

30" Bausch, turret head.
36" Bullard, vertical, turret.
6' Pond, vertical, 2 heads.
9' Pond, vertical, 2 heads.

86" Bullard, vertical, 2 hds.
No. 2B Binsse, horizontal.
No. 5C Binsse, horizontal.
Hoefler, horizontal.

DRILLING MACHINES.

1 spindle Reed sensitive.
3 sp. Avey, high speed.
20" & 23" Barnes, back geared.
22" Aurora, sliding head.

25" 28" & 30" Snyder, sliding hd.
34" Universal radial.
42" Bickford plain radial.
60" & 48" Bement radials.

GRINDERS.

No. 60 Heald, cylinder.
6x32, 14x72 and 18x168, Norton.

No. 24, 12"x60" Landis, plain.
24" C Bath, universal.

MILLING MACHINES.

Nos. 1, 1½ & 2 Cincinnati, universal.
No. 5 Hendey, Lincoln.
No. 1 Brown & Sharpe, univ.
No. 1 Milwaukee, universal.

No. 5 Brown & Sharpe, plain.
No. 14 Garvin, plain.
No. 24 Brown & Sharpe, plain.
No. 4 Cincinnati, plain.

LATHES.

9" Star, foot power.
11"x5' Prentice Bros., c. r.
14"x 6' Lodge & Shipley, compound rest, power cross feed.
16"x6' Lodge & Shipley, patent hd.
16"x8' Prentice Bros., compound rest, power cross feed.
16"x8' Reed, c. r., p. c. f.
16"x8' Putnam, compound rest.
18"x8' Prentice Bros.

18"x10' Hendey, quick change.
20"x8' Lodge & Shipley, 3 step.
20"x10' Hendey, taper.
22"x6' Reed, compound rest.
24"x10' Reed, compound rest, power cross feed.
27"x10' Flather, compound rest.
26"x16' Pittsburgh, quick change.
30"x20' Lodge & Shipley, patent.
36"x14' Fay & Scott, triple geared.

PLANERS.

15"x15"x 3' Pratt & Whitney.
30"x30"x10' Bement, 2 heads.
36"x36"x 8' Pond, 1 head.
38"x36"x12' Lodge & Davis, 2 hds.
38"x38"x12' Gray, 2 hds.
42"x42"x14' Pond, 2 heads.

48"x48"x10' Powell, motor drive.
42"x42"x14' Woodward & Powell, 4 heads.
60"x50"x10' Gray, 2 heads.
71"x69"x14' Pond, 2 hds.
84"x84"x20' Niles, 3 hds.

HAMMERS.

100 lb. Bradley, compact.
1200 lb. Billings, drop.

1000 lb. Pratt & Whitney, drop.
600 lb. Morgan, steam.

PRESSES.

No. 4 Mossberg & Granville.
No. C-82 Ferracute, notching.

No. 2½ V. & O., inclinable.
E 12 Ferracute, inclined.

SCREW MACHINES.

1"x10" P. & W., wire feed.
No. 2, 1" Garvin, wire feed.
No. 2 P. & W., wire feed.
No. 2½ P. & W., wire feed.
15" Kelley, crank.
24" American, heavy.

Nos. 53 & 55 National-Acme auto.
24" & 30" Gridley auto.
1, 1½ & 2" Cleveland auto.
1, 1½ & 2½" Cleveland auto.
No. 12, 4" B. & O., motor driven.
20"x8" Fay & Scott.

SHAPERS.

8" Gould & Eberhardt.
16" Gould & Eberhardt.
24" Gould & Eberhardt.

26" Gould & Eberhardt.
28" Juengst, crank.

MISCELLANEOUS.

Angle shear, 6" Hilles & Jones.
Bolt cutter, 2" Acme.
Broaching machines, Nos. 3 and 4 LaPointe.
Cold saw, 9" Espen-Lucas.
Gas blowers, Nos. 1, 3 & 4 American.
Gear cutters, 16", 24", 36" and 48" Gould & Eberhart.
Gear cutter, 36" Cincinnati.

Pipe machine, 4" Saunders.
Pipe machine 6" Armstrong.
Pipe machines, 3", 4" and 8" Jarecki.
Punch and shear, Hilles & Jones.
Riveter, Greiner.
Screw slotter, National-Acme.
Slotters, 10" and 18".
Stake riveter, 50" Rock River.

SECOND-HAND MACHINERY

FOR SALE BY

The Motch & Merryweather Machinery Company,
707-715 Lakeside Av., N. W., Cleveland, Ohio

Branches: Detroit, Cincinnati, Pittsburg.

LATHES.

- | | |
|---|--|
| 6"x30" Cataract bench lathe, complete with bench and all equip. | 16"x10' Le Blond, compound rest. |
| 11x4 Blount speed lathe. | 20"x10' Bradford. |
| 13x5 Blount speed lathe. | 18"x8' Fay & Scott, Flathers, Davis, Walcott & Wood, Reed and Bradford, compound rest. |
| 10"x5' Pratt & Whitney, tool room lathe, complete. | 28"x12' Johnson. |
| 12"x5' Miami Valley, complete. | 22"x12' Pond. |
| 12"x5' Hendey, tool room. | 22"x16' Pond. |
| 13"x6' Willard compound rest. | 36"x20' Niles, triple geared. |
| 14"x6' Prentice, compound rest. | 38"x24' Pittsburg, triple geared. |
| 14"x6' Prentice, rise and fall rest. | 39"x9' Roll lathe. |
| 14"x6' Hendey, taper attachment. | 50"x18' Fifeild, c. r. triple geared. |
| 16"x6' Flather, taper attachment. | 52"x36' Hewes & Phillips, tri.grd., c. r. arranged for crankshaft turning. |
| 16"x8' Davis, compound rest. | 64"x43' Hewes & Phillips, comp. rest, taper attachment, triple geared, arranged for crankshaft work. |
| 16"x6' Le Blond, compound rest. | 64"x43' Roach, c. rest, triple geared. |
| 16"x6' L. & S. patent head, c. rest. | |
| 16"x8' Flather. | |
| 16"x8' Hendey, taper att., c. rest. | |

BORING MACHINES.

- | | |
|--------------------------------------|------------------------------|
| Lucas 2" bar, cone drive, belt feed. | 24" & 36" Bullard, v. t. l. |
| Lucas No. 21, cone drive, geared fd. | 34" Colburn, 3-jaw chuck. |
| 6" horizontal Niles, table type. | 42" Colburn, 2 swivel heads. |
| Bement-Miles 4" bar, table type. | 72" Pond, friction feed. |

DRILLS, MULTIPLE.

- | | |
|------------------------------------|--|
| 8-spindle Baush, 1/2" capacity. | 8-spindle Moline rail drill, 1/2" cap. |
| No. 43 Gardam 8-spindle, 1/2" cap. | 10-spindle Baush multiple, 1/2" cap. |
| 3-spindle No. 1 Avey ball bearing. | |

DRILLS, UPRIGHTS.

- | | |
|--------------------------------------|-------------------------------|
| 20" Baker, style "F". | 32" Cincinnati, sliding head. |
| 20" Barnes, all geared. | 34" Barnes, sliding head. |
| 20" Aurora, wheel and lever feed. | 40" Aurora, sliding head. |
| 20" Mechanics wheel and lever, 3 sp. | |

DRILLS, RADIALS.

- | | |
|-------------------------------------|----------------------------------|
| 24' & 2' Fosdick plain, cone drive. | 4' Fosdick radial, gear drive. |
| 3' Dreses & Mueller, cone gear fd. | 4' Pond heavy plain, cone drive. |
| 4' Baush, radial. | 8' Niles. |

DRILLS, SENSITIVE AND MULTIPLE.

- | | |
|--------------------------------------|--|
| 10" sensitive plain, Myers. | 14" Taylor & Fenn, sensitive, sgl. sp. |
| 10" Barnes, friction. | 15" Barnes, friction drive. |
| 12" 4-spindle Barr, sensitive. | 6-spindle Kern, ball bearing. |
| 4-spindle Pratt & Whitney sensitive. | 6-spindle Kern, with tapping attachment, ball bearing. |
| 14" Foote-Burt, 2-spindle sensitive. | 8-spindle Leland, ball bearing. |
| 14" Foote-Burt, 6-spindle sensitive. | |

GEAR CUTTERS.

- | | |
|---------------------------------|--------------------------------|
| 26" Brown & Sharpe, plain spur. | 48x12 Gould & Eberhardt, spur. |
| 33" Gould & Eberhardt, spur. | 60" Gould & Eberhardt, spur. |
| 36" Gould & Eberhardt, spur. | 24" Fellows gear shaper. |
| 40" Flather, spur. | 36" Fellows gear shaper. |

HAMMERS.

- | | |
|-------------------------------------|---|
| 400 lb. Morgan, single frame. | 1500 lb. Bement Miles, 2 machines. |
| 2000 lb. single frame Bement-Miles. | 600 ton steam hydraulic press, Alliance Machine Co. |
| 3300 lb. single frame Bement-Miles. | |

GRINDERS.

- | | |
|------------------------------------|-------------------------------------|
| No. 1 Leland & Falconer, wet tool. | Nos. 200 & 210 Heald ring grinders. |
| No. 2 Worcester drill grinder. | No. 3 LeBlonde univ. tool & cutter. |
| No. 11 Brown & Sharpe, plain. | No. 3 Oesterlein universal grinder. |
| 6"x32" Norton plain grinder. | 10"x36" Landis, plain grinder. |

CENTERING MACHINES.

- | | |
|-----------------|----------------------------|
| 3" Binghampton. | 6" Winton, double spindle. |
|-----------------|----------------------------|

SECOND-HAND MACHINERY

Motch & Merryweather Machinery Co.,—Continued.

MILLING MACHINES.

No. 13 Pratt & W. Lincoln type.
No. 32 Kemp Smith, Lincoln type.
No. 2 Brown & Sharpe, universal.
No. 2½ Le Blond pl., all power feed.
No. 3 Le Blond, a. p. f.
No. 2 Brown & Sharpe, pl., cone dr.
No. 12 B. & S. Lincoln type.
No. 13 B. & S. Lincoln type.
No. 6 Whitney plain hand miller.
No. 4 Blake & Johnson vertical.

PLANERS.

16"x16"x4' Hendey.
22"x22"x4' New Haven.
22"x22"x7' Gray.
24"x6' Gray planer new.
24"x24"x8' Powell.
28"x5' New Haven.
30"x30"x10' Whitcomb.
60"x18' Pond, double head.
72"x24' Pond, double head.
12'x26' Pond, four heads.

SHAPERS.

14" Steptoe, single geared.
15" Hendey friction.
18" Steptoe, single geared.
20" Kelly, back geared crank.
20" Smith & Mills, dbl. grd., crank.
22" Smith & Mills, shifting belt.
24" Hendey, friction.
24" Walcott, shifting belt.
34" Gould & Eberhardt, crank.

SLOTTERS.

54" Hewes & Phillips.
52" Hewes & Phillips.
30" Pond.

TURRET LATHES & SCREW MACHINES.

1" Pratt & Whitney, with cut-off rest and automatic chuck.
¾"x4" Brown & Sharpe turret.
No. 2 H. & O., w. f., auto. chuck, (2).
No. 2 W. & S., w. f., auto. chuck.
No. 2 Bardons & Oliver, turret, pwr. feed to turret slide.
No. 2 Brown & Sharpe, standard screw machine.
3"x36" J. & L. sliding hd. tur. lathe.
14" Drees, wire fd. screw machine.
24" Davis chucking machine.
21" Gisholt turret lathe.
No. 2 Foster pl. head turret lathe.
1"x24" Acme screw machine.
2"x24" Jones & Lamson flat turret lathe, cone head.
24"x10" L. & S. screw machine.

AUTOMATICS.

Gridley automatic piston ring mch.
14" late type Gridley.
24" Gridley.
¾" Cleveland automatic.
¾" Acme automatic.
14" Cleveland automatic.
14" Cleveland automatic.
24" Cleveland automatic.
6" Cleveland auto., standard model.

MISCELLANEOUS.

Band saw, wood, 36".
Centering machine, 3" Binghamton.
Centering mch., 6" Whiton, 2 spd.
Cold saw, 56" Espen-Lucas.
Cut-off mch., 24" Hurlbut-Rogers.
Cut-off mch., 34" Hurlbut-Rogers.
Cut-off mch., 3" Pratt & Whitney.
Disc grinder, 18" W. & P., dbl. end.
Keyseater, No. 0 Baker.
Keyseater, No. 0 Mitts & M., 3" cap.
Keyseater, 18x1½ Morton.
Shears, 36" Toledo, power, ¾" cap.

FOR SALE BY

McCoy & Brandt, - - 410 House Building, Pittsburgh, Pa.

Bolt cutters, 1½", 3" single, 2" dbl.
Bulldozers, Nos. 0, 2, 4, 5, 7, 9 W. W. (6).
Crane, 40-ton, 60' span, 220 v., d. c.
Grinder, 156" Bridgeport auto. knife.
Hammer, 75 lb. Bradley, upright strap
Heading and forging mchs., 1½", 3".
Pipe machines, 12" Stoeber, 3" Acme.
Press, Bliss No. 78½, grd., sgl. acting.
Presses, Bliss Nos. 73½, 74½, 75½.
Press, Bliss No. 52, straight sided.
Press, Bliss No. 3, dbl. crank, 2½ str.
Press, Bliss No. 405 Spl., toggle.
Press, Bliss No. 133, double crank.
Press, Bliss No. 3½-A, toggle.
Press, Ferracute No. C-3, inclinable.
Press, Ferracute No. D-55, not grd.
Press, Ferracute No. DG-56 geared.
Press, Ferracute No. S-132, geared.
Press, No. 2 B. & S., trimming.
Press, Niagara No. 65-B, punch and shear.
Press, Toledo No. 65 Spl., cam drawing.
Press, Toledo No. 294, dbl. act. crw.
Shear, guillotine type, 4" 5" squares.
Shears, alligator, 14", 24", 4", 5" sq.

All good. Details upon request.

SECOND-HAND MACHINERY

FOR SALE BY

The Osborne & Sexton Machinery Co., . . . Columbus, Ohio.

LATHES.

- | | |
|-------------------------------------|----------------------------------|
| 13"x5' Reed, hollow spindle. | 20"x12' cabinet legs, rebuilt. |
| 14"x6' Springfield, hollow spindle. | 24"x10' LeBlond, turret on ways. |
| 14"x8' thoroughly rebuilt. | 28"x10' . |
| 15"x6' Putnam and Wood-Light, (2). | 38"x14' Fifeild, rebuilt. |
| 16"x10' Pond, rebuilt. | 28"x48"x13' centers, Harrington. |

SHAPERS AND PLANERS.

- | | |
|---------------------|-------------------------------|
| 11" Gould Brothers. | 30" Morton, draw cut. |
| 16" Smith & Mills. | 20"x20"x4' single head. |
| 16" Steptoe. | 32"x32"x6' and 8' both Grays. |

TURRET LATHES AND SCREW MACHINES.

- | | |
|------------------------------------|---------------------------------|
| 12" Pratt & Whitney screw machine. | 18" American Fox lathe. |
| 15" Pratt & Whitney, turret. | 23" Fay chucking lathes, (2). |
| 16" Warner & Swasey, grd. head. | 5" bar turret, Pratt & Whitney. |

DRILLING MACHINES.

- | | |
|------------------------------|----------------------------|
| 22, 24 and 30" Hamilton. | 24" heavy duty Foote-Burt. |
| 4 spindle gang, sensitive. | 4-spd. Niles, 2" capacity. |
| 4-spd. multiple, Foote-Burt. | 30" radial, plain, (2). |

MISCELLANEOUS.

- | | |
|---|-------------------------------------|
| Cold saw, Lucas, 8" capacity. | Miller, Garvin No. 2 1/2 universal. |
| Disc grinder, double end, Besly. | Press, drawing, Q. & C. 4500 lbs. |
| Hammers, fric. bd., 300, 400 & 3,000 lbs. | Press, o. b., No. 3 Crosby. |
| Hammer, helve, 25 & 60 lb. Bradley. | Rolls, shovel blanking, Toledo. |
| Miller, No. 2 Cincinnati plain. | Valve miller, Warner & Swasey. |

FOR SALE BY

A. D. White Machinery Co., - 108-114 N. Jefferson St., Chicago

LATHES.

- | | |
|------------------------------------|--------------------------------|
| 13"x 5' P. & W., taper and chucks. | 24"x10' Lodge & Shipley, q. c. |
| 15"x 8' Von Wyck. | 28"x12' Fifeild. |
| 16"x 6' Fay & Scott. | 28"x25' Putnam. |
| 18"x 8' Walcott. | 32"x10' Bradford. |

DRILL PRESSES.

- | | |
|-----------------------------|-----------------------------|
| 13" Barr sensitive, (3). | 32" Bickford, sliding head. |
| 20" Barnes. | 36" Bickford radial. |
| 28" Bickford, sliding head. | 36" Mueller radial. |
| 30" Kerkhoff, sliding head. | 40" Aurora radial. |

PLANERS.

- | | |
|---------------|----------------|
| 24"x 6' Pond. | 32"x 8' Betts. |
| 26"x 8' Gray. | 35"x12' Niles. |
| 28"x 8' Gray. | 38"x10' Gray. |

SCREW MACHINES AND TURRET LATHES.

- | | |
|--|-----------------------------------|
| 16" No. 3 Pearson screw machine. | No. 2 Garvin screw machine. |
| No. 2 1/2 P. & W. screw machines, (2). | 13" Drees turret lathe. |
| 1" Cleveland automatic. | 22" Lodge & Shipley turret lathe. |
| 1" Pratt & Whitney automatics, (4). | 21" Gisholt, big bore type. |

PUNCH PRESSES AND SHEARS.

- | | |
|---------------------------------|--|
| No. 2C Ferracute. | No. 105 Bliss slitting sh., circle att. |
| No. 16 Wold. | No. 242 Niagara power sq. shear, 14 gauge. |
| No. 5 Niagara. | No. 152 Niagara power sq. shear, 18 gauge. |
| No. 45 Crosby, open back. | |
| No. 3 Ferracute, double action. | |

MISCELLANEOUS.

- | | |
|--|----------------------------------|
| Bolt cutters, National 1 1/2 & 3" s. hd. | Miller, No. 9 Kempsmith plain. |
| Blowers, No. 1 Garden City, (2). | Miller, No. 24 Oesterlein univ. |
| Grinder, cutter, H. G. Barr. | Miller, No. 6 Grant Mfg. Co. |
| Grinder, Yankee drill, style "B". | Pipe machine, 2" Jarecki. |
| Grinder, disc, No. 1-B Besly. | Shaper, 15" Kelly. |
| Hammer, power, 50 lb. Dienelt. | Shaper, 16" Smith & Mills. |
| Keyseater, 16" Morton, portable. | Shaper, 24" Gould & Eberhardt. |
| Miller, No. 12 Garvin plain. | Tapper, No. 2 Garvin horizontal. |

SECOND-HAND MACHINERY

FOR SALE BY

Marshall & Huschart Machinery Company,

Chicago

Indianapolis

St. Louis

BORING MACHINES.

Lucas & Gleim horiz., table 16x36.
No. 2 Rockford horiz., table 24x72.
Barrett horizontal, raised to swing
74", with 6" bar.
30" Bullard vertical, belt feed.
30" Bullard vertical, geared feed,
thread cutting.

30" Baush vertical, turret head.
37" Baush vertical, 2 swivel heads.
42" Bullard, one plain, one swivel
head, 3-jaw chuck.
52" Rogers & Hemphill, 2 swivel hds.
48" swing car wheel boring machine,
for 36" wheels.

DRILLING MACHINES.

3-spindle Rockford gang, pwr. feed.
4-spindle Foote-Burt gang.
3-spindle Barr sensitive.
2-spindle Kokomo sensitive.
19 1/2" Putnam upright, power feed.
20" Prentice, wheel and lever.
23" Rockford, stationary head, back
gears.
23" Rockford, sliding head, back
gears, geared feed.

32" Hamilton, sliding head, back
geared and power feed.
34" Lodge & Davis sliding head,
back geared and power feed.
42" Barnes, sliding head, back geared
and power feed.
10-spindle Natco multiple, capacity
ten 5-16" drills.
12-spindle Western multiple, capa-
city 1".

RADIAL DRILLS.

24" Gang, plain, cone drive, swing-
ing table.
36" Bickford pl., cone drive, pl. tbl.

44" arm Alfred Box & Co., plain.
5" Western full universal, gear box
drive.

GEAR CUTTERS.

18" Brainerd, spur and bevel.
22" Gould & Eberhardt, spur and
bevel.
30" Flatner, spur, full automatic.
30"x7" Gould & Eberhardt, new type,
spur gear.

36"x10" Gould & Eberhardt, vertical
cutting, spur gear.
36" Fellows gear shaper, excellent
condition.
Norris 4-spindle multiple semi-auto-
matic, for spur, bevel and mitre.

ENGINE LATHES.

13"x6' Sebastian, plain rest.
14"x6' Lodge & Shipley, q. c. g.
14"x6' Whitcomb-B., with taper.
14"x6' Reed, taper, r. and f. rest.
16"x8' American, tool room, with taper
and relieving attachments.
18"x5' Putnam, raised to swing 21 1/2",
compound rest.
18"x6' American, compound rest.

18"x8' Lodge & Shipley, patent hd.,
quick change gears.
20"x8' Lodge & Davis, comp. rest.
21"x11' Lodge & Davis, compound
rest, taper.
26"x12' Star, comp., full swing rests.
36"x40' Niles, 2 steady rests, bed 2
sections.
Fitchburg Lo-swing lathe.

TURRET LATHES AND SCREW MACHINES.

14" Garvin turret lathe, with pan,
1 1/2" hollow spindle.
21" Gisholt heavy turret lathe.
24" Conradson heavy turret lathe.

42" New Haven heavy turret lathe.
1 1/2" Bardons & Oliver screw mche.
2" Cleveland automatic.

MILLING MACHINES.

No. 3 Owen plain.
No. 2 Cincinnati plain, cone drive.
No. 4 Cincinnati plain, cone drive.

No. 5 Kempsmith plain, all power
feeds.
Newton duplex.

PLANERS AND SHAPERS.

22"x22"x5' Pond, parallel drive.
30"x30"x10' Gleason.
36"x36"x10' American.
20" Rockford crank shaper, b. g.

24" Smith & Mills.
26" American, triple geared, shift-
ing belt.
26" and 34" Walcott.

Send for our complete list. We have many others.

SECOND-HAND MACHINERY

FOR SALE BY

Niles-Bement-Pond Company, 111 Broadway, New York.

Located at Chicago, Boston and New York.

Send for Catalogue No. 18.

LATHES.

13x6 P. & W., r. & f., taper.
14x10 P. & W. c. r., taper.
15x7 speed lathe.
16x10 P. & W., r. & f. & t.
18x6 Pond, turret tool post.
18x7 Pond, turret tool post.
19x8 Pond, compound rest.
20x10 Flatther, c. r.
20x14 LeBlond c. r., taper.
22x12 Niles, with taper.

22x22 Niles.
28x12 Pond, compound rest.
30x16 Pond, compound rest.
32x12 Pond, compound rest.
36x14 Niles compound rest.
36x17 Pond, 220 v. motor drive, taper.
40x16 Bement, b. g., not screw cutting.
42x22 Niles, comp. r., tri. grd.
42x30 Putnam, comp. r., tri. grd.
44" P. & W. pulley lathe.
44" P. & W. automatic screw mach.
44" P. & W. 2 sp. automatic screw machine.
44" Acme old style 4-sp. automatic.
44" single turret Spencer automatic.
21-32" No. 2 Brown & Sharpe automatic screw machine.

SCREW MACHINES, TURRET LATHES, ETC.

No. 3, 2 15-16" Niles screw mche.
2x26 P. & W. piston and piston ring equipment.
21" Gisholt, turret.
24-27 Conradson semi-automatic turret, 2 3-16" hol. sp.
28" Milwaukee turret, 4 in. hol. sp.
1/2" Hartford, automatic pin machine.

BORING MACHINES.

30" turret hd., b. & t. mill, Colburn.
37" Niles, b. & t., 2 heads.
5" Niles, 2 heads.
6" Pond, 2 heads, with slotting att.
7" Niles, 2 heads.
10" Niles, 2 hds, 220 v., motor drive.
10-16" Niles b. & t., 2 heads.

10-16" Betts, 220 v., d. c., motor dr.
2" sp. Kelly hor. bor. and drill.
3 1/2" sp. Bement hor. bor. & drill.
5" sp. Niles, floor borer.
96" swing x 10' centers bor. & facing; weight: about 43,000 lbs.

UPRIGHT AND SENSITIVE DRILLS.

13" 1 sp. sensitive, motor dr., 110 v.
16" 3 sp. sensitive, Sigourney.
2 spindle dbl. column sen., Langelier.
17" 4 sp. gang, Jones & L.
21" Aurora, b. g., p. f., sta. head.
30" sli. head, Gould & Eberhardt.
36" sliding head, Gould & E.

36" Aurora, sliding head.
4 spindle Bement, multiple, 11' between housings.

No. 11 multiple drill, P. & W.
10 sp. adjustable R. & W., capacity 1 1/2" holes in 37" circles, belt or motor; weight: 30,000 pounds.

RADIAL DRILLS.

4 1/2" semi-radial, Barr.
4" Niles, plain.
4" Niles, univ.
5" Niles, plain.
5" plain, motor, Pond.

5' 6" universal, Niles.
6' heavy plain, Pond.
6' 10" semi-universal, Niles.
7' 6" full universal, Niles.
Univ. portable radial, Prentice.

MILLERS AND GEAR CUTTERS.

No. 1 Duplex Van Norman.
24x7 table, plain, Becker.
No. 1 B. & S. plain, late model.
No. 14 LeBlond, plain.
No. 3 LeBlond, plain.

No. 4 LeBlond, plain.
43-94 No. 3 Cincinnati plain, b. g.
6x80 thread miller, P. & W.
36" spur gears, Pond.
72" spur gears, Niles.

PLANERS.

22x22x6 Harrington.
26x26x7 Niles, heavy type.
26x23x16 Miles, 2 hds.
30x30x6 Pond, 1 head.
30x30x8 Pond, 2 heads.
30x30x11 Niles, 1 head.
30x30x24 Sellers, 2 hds.
36x36x14 Pond, 4 heads.
36x36x20 Pond, 3 hds.
42x42x20 Miles, 3 hds.

48x48x12 Niles, 3 hds.
48x48x16 Pond, 4 heads, heavy.
48x48x20 Sellers, 3 hds.
72x60x20 Niles, 2 hds.
86x86x30 Pond, 4 hds., revers. motor dr.
96x96x30 Niles, 4 heads.
10'x10'x36" Niles, 4 heads.
10'x10'x36" Betts, 4 heads, 50 h. p., 220 v., motor drive.

RAILROAD MACHINERY.

42" Niles heavy car wheel lathe.
46" car wheel lathe, Bement.

Bement and Niles dbl. axle lathes.
Putnam double axle lathe ex. heavy.

SECOND-HAND MACHINERY

Niles-Bement-Pond Company—Continued.

SHAPERS AND SLOTTERS.

10" crank shaper, P. & W.
10" crank shaper, Miles.
12" crank shaper, Bement.
18" double trav. head, Cincinnati.

20" Bement, 230 v. motor, traveling head, like new.
12" crank slotter, Bement.
14" crank slotter, Niles.

MISCELLANEOUS.

Bar cut-off saw, 22" diam. blade.
Cut-off machine, 24" P. & W.
Cut-off machine, 44" Starr.
Grinder, wet tool, Gisholt.
Grinder, drill, 3" Sellers.

Grinder, plain, 5x32" Landis.
Grinder, univ., 10x30 Landis.
Grinder, 12x96" Springfield.
Saw grinder, automatic.

FOR SALE BY

Western Machinery Co.,

610 Baymiller St., Cincinnati, Ohio

LATHES.

12"x44' Sebastian.
14"x6' Bradford, taper attachment.
14"x6' Cisco, quick change.
20"x8' Schumacher & B. q. c. chuck.

22"x8' Putnam, heavy, comp. rest.
27"x12' Niles, compound rest, 14" hollow spindle.
27"x17' Putnam, c. r., blocks to 40".

MISCELLANEOUS.

Bolt cutter, 2" National, taps & dies.
Radial, 24" Hamilton, tapping att.
Full line lathes, drills, shapers, milling machines, presses, chain blocks, grinders and other machinery.

Planer, 22"x22"x5' Putnam, fine condition.

FOR SALE BY

Frank Toomey, Inc.,

127 N. Third St., Philadelphia, Pa.

LATHES.

33"x20' Fifield.
30"x18' Bement-Miles.
27"x21' Pratt & Whitney, taper att.
26"x17' Johnson, taper attachment.
26"x12' Fifield.
21"x 9' Lodge & Davis.
18"x 8' LeBlond, turret attach.

18"x 8' Reed.
16"x 6' Hendey-Norton, cone head, taper attachment.
16"x6' Reed, taper attachment.
14"x8' Hendey-Norton.
14"x5' Lodge & Shipley, taper att.

PLANERS.

60"x60"x14' Pond, two heads.
60"x60"x14' Sellers, 4 heads.
33"x33"x12' Woodward & Powell.

30"x30"x10' Bement-Miles, 2 heads.
24"x24"x6' Putnam
12" Moore crank planer.

SHAPERS.

20" Gould & Eberhardt.
16" Smith & Mills.

16" American, back geared.
12" Bement.

MILLING MACHINES.

36"x12' slab, heavy pattern.
No. 3 Kempsmith plain.
No. 3 Becker-Brain'd pl., table 12x42.

No. 1 Brainard plain, table 12x48.
No. 3 Becker-Brainard universal.
No. 3 Becker-B. univ., vertical att.

MISCELLANEOUS.

Bolt cutter, 14" National.
Boring mill, 72" Bickford, 2 heads.
Boring mill, horiz., 48" Bement.
Boring & turn. mill, 48" Sellers, 2 hds.
Card cutting presses No. 103, (5).
Drill, 24" Snyder, sliding head.
Hammer, steam, 350 lb. Bement-Miles, single frame.
Hammer, steam, 3,500 lb. Bement-Miles, double frame.
Hammer, board drop, 500 lb. P. & W.
Internal grind. lathe, 16x5 Diamond.
Pipe machine, 6" Cox.
Dynamos, motors, engines and boilers.
and second-hand. Send for our stock

Pipe machine, 6" Oster.
Pipe machine, 10" Bignall & K.
Pipe machines, 3" and 6" Curtis & Curtis, hand power, (2).
Presses, combined boring and wiring, No. 22 Adriance, (2).
Pulley boring machine, 60" Harrington, upright.
Radial drill, 3' Bickford plain.
Screw machine, No. 12 Garvin.
Shear, single end, 50" throat, 2" capacity, engine driven.
Turret lathes 14" and 2" Foster & K.
Wood-working machines both new books.

SECOND-HAND MACHINERY

FOR SALE BY

Girard Machine & Tool Co., 491-493 N. Third St., Philadelphia, Pa.

RADIAL DRILLS.

Prentice Bros. 5' and 6' radial drills, equipped with belt or motor drive, \$450.00 and \$475.00 each.

LATHES.

32"x10' Putnam, complete.
26"x12' Blaisdell, complete.
24"x12' Reed, complete.
24"x12' Lodge & Shipley.

22"x14' Bullard, complete.
16"x8' Greaves-Klusman, speed box.
14"x7' Lodge & Shipley, complete.

TURRET LATHES AND SCREW MACHINES.

40" Gisholt turret lathe with standard tool equipment; P. & W. turret lathe with bar equipment; 24" Davis chucking lathe; No. 2 W. & S., and other turret lathes and screw machines.

BORING MILLS.

44" Rodgers & Hemphill vert. with two heads, all with speed boxes. | 30" Bullard vert.; 38" with 2 hds.

MISCELLANEOUS.

Drill presses, all sizes.
Gear shapers, 36" Fellows.
Grinder, universal, Oesterlein.
Grinders, B. & S. and Landis, modern.
Milling machines, vertical.

Milling machines, plain and univ.
Planers, all sizes.
Punch presses.
Punch and shr. comb., No. 4 Perkins.
Steam hammers, etc., etc.

These machines are modern and late type. Send for our list.

FOR SALE BY

Wm. C. Johnson & Sons Machinery Co.,

210-212 Washington Ave.,

St. Louis, Mo.

LATHES.

14"x 8' Von Wyck, quick change.
14"x 8' American, quick change.
14"x12' Lodge & Davis.
18"x 8' Rahn & Carpenter.
18"x16' Porter.

20"x 8' Whitcomb-Blaisdell.
80"x10' centers, heavy turning.
32"x10' Bradford.
32"x19' American, quick change.

SHAPERS AND PLANERS.

24"x24"x6' Lodge & Davis.
24"x24"x8' American.
24"x24"x8' Lodge & Davis, 2 heads.
28" American, back geared.

32"x32"x14' Niles.
26"x36"x8' Hamilton.
44"x44"x14' Niles.

DRILLING MACHINES.

20" Barnes.
28" American, sliding head.

32" Aurora, sliding head.
4' arm Fosdick.

BORING MILLS.

34" Gisholt, turret head.
36" two heads.
72" Niles, one head.

No. 1 Barret boring machine.
72" Niles Corliss engine cylinder boring machine.

AIR COMPRESSORS.

6x6 belted.
8x8 belted.
9x9x9 steam driven.

10x10x10 steam driven.
12x12x14 steam driven.
500' and 1,000' steam driven.

MISCELLANEOUS.

Angle shear, dbl., size B, L. & A.
Bending rolls, No. 14, cap. 98".
Bolt cutter, 14", double head.
Brake, No. 16 Robinson, cap. 10'.
Bulldozer, No. 4 Williams-White.
Grinder, 10"x72" Landis.
Grinders, surface, No. 2 Brown & S.
Hammer, 100 lb. Bradley.
Hammer, steam, 350 lb.
Hammer, steam, 800 lb.

Jack, hydraulic, 50 ton.
Jacks, simplex, 12 and 15 ton.
Miller, No. 34 Fox.
Pipe machine, 4" Borden.
Pulley lathe, 30" Stevens.
Punch press, heavy, dbl. housing.
Screw machine, automatic 9-16".
Squaring shear, cap. 1/2" plates, 6" knife, 25" gap, with multiple punching dies.

SECOND-HAND MACHINERY

FOR SALE BY

The H. A. Stocker Machinery Co., 566-72 W. Randolph St., Chicago

LATHES.

- | | |
|-------------------------------------|-----------------------------------|
| 7"x32" Stark, c. r. and chucks. | 18"x8' Reed, compound rest. |
| 11"x5' Star, compound rest. | 18"x10' American, q. c. g. |
| 12"x6' Hendy, tool wk. | 18"x10' S. & B., with taper. |
| 14"x5' P. & W., with taper. | 18"x11' Lodge & Davis, taper. |
| 14"x6' Flather, q. c. g. and taper. | 20"x8' Lodge & Shipley, d. b. g. |
| 15"x6' Von Wyck, d. b. g. | 20"x10' Cincinnati compound rest. |
| 16"x6' Cincinnati, reliev. attach. | 30"x12' Flather, like new. |
| 16"x8' Hamilton, with taper. | 30"x18' Reed, with chuck. |
| 16"x10' Cin., turret on shears. | 32"x14' Putnam, compound rest. |
| 18"x5' Bradford, c. r. and chuck. | 32"x18' Pittsburg, d. b. g. |

SHAPERS.

- | | |
|--------------------------------|----------------------------|
| 6" Boynton & Plummer. | 17" Barker & Chard. |
| 16" Stockbridge, with p. d. f. | 24" Gould & Eberhardt. |
| 16" Gould & Eberhard. | 26" Putnam, triple geared. |

PLANERS.

- | | |
|-------------------|-----------------------------------|
| 22x22x5 Whitcomb. | 36x36x12 Gray. |
| 22x22x5 Pease. | 40x38x14 Putnam. |
| 26x26x6 Pond. | 42x42x14 Detrick & H., open side. |
| 26x26x8 Whitcomb. | 44x44x12 Pond. |

GRINDERS.

- | | |
|------------------------------------|---------------------------------------|
| No. 1 Cin., univ. cutter & tool. | No. 2 Brown & Sharpe, surface. |
| No. 2 Norton, univ. cutter & tool. | No. 2 B. & S., surface, with mag. ck. |
| No. 2 Bath, univ. cutter & tool. | No. 2 Binsse, surface, & mag. ck. |

MILLING MACHINES.

- | | |
|--------------------------------|-----------------------------|
| No. 3 VanNorman, bench. | No. 2 Cincinnati universal. |
| No. 2 Burke, column. | No. 4 Cincinnati universal. |
| No. 1 B. & S., universal, (8). | No. 2 B. & S., plain. |
| No. 2 B. & S., plain. | No. 2 Cincinnati, plain. |
| No. 3 Owen, plain. | No. 5 Cincinnati, plain. |
| No. 1Y, B. & S., plain, (2). | No. 12 Garvin, plain, (4). |

DRILLING MACHINES.

- | | |
|---------------------------------|---|
| Henry & Wright, single spindle. | 20" Davis, b. g. & p. f. |
| Henry & Wright, 6 spindle. | 21" Aurora, b. g., p. f. & tap. attach. |
| Barr, 4 spindle, (6). | 28" Cincinnati-Bickford, comp. tbl. |

POWER PRESSES.

- | | |
|---------------------|-------------------------------------|
| No. 3 Walsh, (2). | No. 3 Bliss, double crank. |
| No. 3 Am. Can Co. | No. 18 Bliss. |
| No. 3 Consolidated. | No. 430 McDonald, double crank. |
| No. P5 Ferracute. | Humphrey single end punch and |
| No. 54 Walsh. | shear, 36" thr., 14"x14", like new. |

PROFILER.

- No. 2 Garvin 2-spindle, like new.

SCREW MACHINES.

- | | |
|----------------------------|----------------------------|
| No. 1 Warner & Swasey. | No. 4 Bardons & Oliver. |
| No. 2 Warner & Swasey. | No. 51 National automatic. |
| No. 24 Pratt & Whitney. | 6" Cleveland automatic. |
| No. 2 Woods, lot of tools. | 4" Cleveland automatic. |
| No. 3 Warner & Swasey. | No. 00 B. & S. automatic. |

BORING MILLS.

- | | |
|---------------------------|---------------------------|
| 37" Niles vert., 2 heads. | 34" Colburn, turret head. |
| 42" Bullard, 2 heads. | No. 3 Binsse, horizontal. |

GEAR CUTTERS.

- | | |
|------------------------|---------------------------------|
| 42" Gould & Eberhardt. | 20" Brown & S., spur and bevel. |
| 30" Flather. | 12" Reynolds hobber. |

MISCELLANEOUS.

- Bolt cutters, turret lathes, grinders, pipe machines, cutting-off machines, cold saws, hack saws, hammers, bulldozers, motors, vises, Brown & Sharpe surface plates, bench plates, die filers.
Everything used in the shop.

SECOND-HAND MACHINERY

FOR SALE BY

Chas. Molitor Machinery Co.,

215 S. Clinton St., Chicago, Ill.

Arch press, 48", double crank, hvy.
Broaching machine, No. 4 Lapointe.
Keyseater, No. 6 Morton.
Keyseater and slotter.
Lathe, 16"x64" Walcott, heavy pat.
Lathe, 20"x84" Rahn-Larmon.
Lathe, 20"x10" Springfield.
Lathe, 20"x10" Walcott.
Lathe, 24"x14" Walcott.
Lathe, 30"x26" Ames.
Lathe, 33"x12" Prentiss.
Tinner's rollers, brakes, shears, punch presses and compressors.
100 other iron and woodworking machines, motors, etc.

Planers, 6' to 12', (3).
Press, geared, Waterbury-F., 4" str.
Press, arch, 30" Bliss.
Press, notching, American Can Co.
Radial drill, 32" Fostick.
Screw mch., 2" No 324 Garvin, fric. hd.
Screw mch., 24" Warner & Swasey
No. 2, geared friction head.
Shapers, 14" to 32", (8).
Strip wiring & molding mch., Yoder.
Wiring machine, universal, Yoder.

FOR SALE BY

Brown-McDonald Machinery Co.,

906-908-910 North Market Street, - - - St. Louis, Mo.

LATHES.

13"x44" Star.
15"x6" Sebastian, h. s., comp. rest.
14", 16" & 18" Monarch, new, (5).
16"x6" American Fox, b. g.
16"x8" Hamilton, h. s.

18"x8" Porter, h. s., comp. rest.
18"x8" LeBlond, h. s., comp. rest.
22"x8" New Haven, comp. rest.
32"x12" American, h. s., comp. rest.
Speed lathes, all sizes, (6).

DRILLING MACHINES.

12" Acme, sgl. spdl., cap. 1/2".
Fox, 3-spindle, cap. 1/2".
Reed, 3-spindle, cap. 1/2".
20" Lodge & Davis, w. & l.

22" Snyder, b. g., p. f.
24" Sibley & Ware, b. g., p. f.
26" Barnes, b. g., p. f., with tap. att.
36" Radial, Gang make.

MISCELLANEOUS.

Brake, 8" Robinson, cap. 20 gauge.
Gear cutter, No. 1 Dwight-Slate.
Gear cutter, No. 11 Dwight-Slate.
Hack saw, No. 1 Racine high speed.
Press, No. 33 Swaine.

Presses, foot, No. 3 Swaine, (2).
Screw machine, No. 2 Pratt & W.
Shaper, 17" Economic.
Shear, pwr. sq., 8" Bertsch, cap. 16 ga.
Tapping machine, No. 1 Wells.

Large stock of sheet metal tools consisting of Square Shears, Folders, Seamers, Beaders, Crimpers, etc.

FOR SALE BY

Badger-Packard Mchy. Co., 72-74-76 W. Water St., Milwaukee, Wis.

LATHES.

14"x6" Robbins lathe, hollow spindle, plain rest.....	\$ 160.
16"x6" Fay & Scott lathe, hollow spindle, compound rest.....	225.
24"x12" Lodge & Davis lathe, hollow spindle, compound rest.....	350.
24"x14" Bradford lathe, compound rest, solid spindle, with chuck and friction countershaft.....	400.
38"x26" New Haven lathe, compound rest, power cross-feed, solid spindle, power feed on compound rest.....	650.
48"x16" Putnam lathe, compound rest, solid spindle, power cross-feed.....	950.
50"x20" New Haven lathe, compound rest, solid spindle, power cross feed, power on compound rest.....	900.

PLANERS.

24"x24"x6" Lodge & Davis planer.....	\$ 400.
26"x26"x8" Merrill planer.....	275.
60"x60"x16" Niles planer.....	1100.

MISCELLANEOUS.

Bolt cutter, 3" National No. 6, taps and dies.....	\$ 200.
Drill, portable, No. 4 Dallett.....	60.
Press, 150-T Elmes, 14" bars and cross head and short bars.....	200.
Slotter, 12" stroke, Putnam.....	450.
Twist drill grinder, Yankee.....	40.
Water grinder, 16" Diamond.....	35.

SECOND-HAND MACHINERY

FOR SALE BY

Vonnegut Machinery Co., 121 S. Meridian St., Indianapolis, Ind.

MOTORS.

5, 10, 25, 30, 35 h.p., 220 volt, 60 cy., 3 ph. | 5 and 10 h. p., 220 volts, d. c.

GRINDERS.

12x32 Landis, plain. | No. 10 Besly, disc.
12x42 Landis, plain. | No. 20⁰ Heald, ring.
5x48 Pratt & Whitney, plain. | No. 210 Heald, ring.
No. 1 Norton, universal tool. | No. 60 Heald, cylinder.
No. 3 Brown & Sharpe, tool.

DRILLING AND TAPPING MACHINES.

30" Lodge & Davis. | No. 1 Garvin tapper.
3-spindle Baker. | 1, 2, 3 & 4-spindle Barr.
4-spindle Gardam. | 1, 2, 3 & 4-spindle Reed.

MILLING MACHINES.

No. 40 Becker-Brainard, duplex. | No. 1 Grand Rapids, plain.
No. 2 Garvin, duplex. | No. 6 Whitney, hand.
No. 2 Van Norman. | No. 2 Garvin, Lincoln.
No. 2¹/₂ LeBlond, plain. | No. 12 Pratt & Whitney.
No. 1 Cincinnati, universal. | No. 2 Rockford, universal.

TURRET LATHES AND SCREW MACHINES.

12" Pratt & Whitney. | 24" Davis.
16" Davis & Egan. | 2x24 Jones & Lamson.
16" Acme. | 14" Cleveland automatic.
18x6 Lodge & Davis. | 24x8 Lodge & Shipley.
18" Bardons & Oliver.

LATHES.

13x6 Willard. | 18x8 Lodge & Shipley.
14x6 Lodge & Shipley. | 18x10 Lodge & Shipley.
15x6 Sebastian. | 20x8 Lodge & Shipley.
16x8 Lodge & Shipley. | 20x8 American.
16x8 Greaves-Klusman. | 20x10 Reed.
18x8 Greaves-Klusman. | 22x10 Reed.

SHEET METAL MACHINERY.

Large burring machine, Niagara. | No. 236 Squaring shear, Niagara.
24" Beader, Niagara. | 60" Rotary shear, H. Collier Smith.
42" Folder, Niagara. | 8" Brake, Robinson.
No. 208 Slitting shear, Niagara.

MISCELLANEOUS.

Arch press, Billings & Spencer. | Punch presses, P-2 & P-3 Ferracute.
Boring machine, 34" Colburn. | Saw, No. 1 Cochran-Bly.
Keyseater, No. 2 Giant. | Shapers, 12 and 20" Steptoe.

I am in close touch with one of the most complete Manufacturing Machine Shops in the country.

Let me secure estimated cost of manufacturing any Special Machines, Jigs, Tools, Fixtures, etc., or for any machine work where accuracy is required

J. C. Hitchcock

600 West 192d Street

NEW YORK

For Sale

Putnam Planer.

48"x48"x20', Two Heads on Cross Rail.

Radial Drill.

4' Cincinnati-Bickford Plain, Single Pulley
Drive through speed box.

Large Plain Grinder.

Landis 30" Swing, 150" between centers.

Engine Lathe.

36"x14' Fifeild, raised to 48", Comp. Rest.

Chandler & Farquhar Company

419-425 Atlantic Ave., Boston, Mass.

Receiver's Sale

Machine Tool Equipment, Stock, Supplies, etc., of

THE POPE MFG. COMPANY

Located at the plants of the above concern,
HARTFORD, CONN.

Consisting of lathes, gear cutters, grinders, drills, milling machines, boring mills, presses, profiling machines, screw machines, drop shop equipment, metal and wood working equipment, motors, compressors, and many other kinds of machinery too numerous to mention, together with about 200 tons of steel, small tools, shop supplies, etc.

Write at once for Catalog of Machinery, and let us have your inquiries before ordering elsewhere. We can save you money.

George Pope, Receiver, Hartford, Conn.

THE E. L. ESSLEY MACHINERY CO

555-557 WASHINGTON BLVD CHICAGO
222 GRAND AVE MILWAUKEE

Boring Mills.

- | | |
|---|--|
| 30" Bullard, sw. turret, pl. table, (2). | No. 1 Barrett horiz. cyl. borer. |
| 42" Baush, 1 pl., 1 tur. hd., pl. table, (2). | No. 2 Rochester table type, horizontal boring and drilling machine, new. |
| 51" Niles, 2 heads, plain table. | |
| 60" Baush, 2 heads, plain table, (2). | |

Radial Drills.

- | | |
|-------------------------------|---------------------------------|
| 2' American sensitive radial. | 3 1/2' Baush plain, cone drive. |
| 3' American plain, like new. | 4' Bickford plain, speed box. |

Grinders.

- | | |
|-------------------------------|-------------------------------------|
| No. 6A Bryant, hole and face. | No. 2 Cinti. 12x36 univ., like new. |
| No. 60 Heald, cylinder. | No. 3 Diam'd, auto. surface 48x12x9 |

Hammers.

- | | |
|-------------------------------------|---------------------------------|
| 200 lbs. Chambersburg, steam, s. f. | 100 lb. Wais & Roos, belted. |
| 40 lb. Bradley, helve, r. c. | 600 lb. Pratt & W., board drop. |

Lathes.

We offer Engine Lathes in all sizes from 9" to 50". What size and type do you need? Write us.

Milling Machines.

- | | |
|----------------------------|---------------------------------|
| No. 1 B. & S., plain. | No. 2 Owen, plain, new. |
| No. 2 Kearney & T., plain. | No. 32 Kempsmith, Lincoln type. |
| No. 3 LeBlond, plain. | No. 3 Owen, univ., new. |

Turret Lathes & Screw Machines.

- | | |
|--|--|
| 16" Drees, universal, (brass). | No. 4 Bardons & O., friction head, wire feed, (2). |
| 13" Gisholt, turret, style G. | 1 1/2" Foster-K., w. f. & a. c. |
| 7-16" No. 1 P. & W., w. f. & a. c., (2). | 1 1/2" Cleveland auto., late type. |
| 1 1/2" P. & W., w. f. & a. c., (3). | 1 1/2" Cleveland auto., late type. |
| 1 1/2" Garvin, w. f. & a. c. | |

Miscellaneous.

- | | |
|--|--|
| Bar saw, 6 1/2" Smith & P., new. | Planer, 30"x26"x7' Powell. |
| Bending roll, 6" Niles. | Planer, 40"x36"x12' New Haven. |
| Bolt cutter, 1 1/2" Merriam. | Pulley lathe, 26" Stevens. |
| Bolt cutter, double, 1 1/2" Acme. | Pulley lathe, 30" Streit. |
| Bulldozer, No. 1 W.-White. | Punch p., Nos. 1, 2 & 4 Rock'd.o.b.i. |
| Bulldozer, No. 25 W.-White, arr. for motor dr., nearly new, a bargain. | Punch presses, 119 Crosby, o.b.i., (2). |
| Centering mche., 2-sp. Pratt & W. | Punch & s., dbl., 1"x1" 17D New Doty |
| Gear cutters, 26x8" No. 3 B. & S., (2). | Punch and s., sgl., 1"x1" No. 2 Cin. |
| Gear and p. cutter, Slate auto. | Punch & s., sgl., 1 1/2"x1 1/2" 12" Cleve'd.new. |
| Gear hobbors, 12" Adams-F., (4). | Rotary shear, 6" Lenox, 4" cap. |
| Gear hobbors, 12" Reynolds, (2). | Saw, No. 14 Higley, motor drive. |
| Gear hobber, No. 24 Rhenania, new. | Saw table, universal, Baker. |
| Keyseater, 18" Morton. | Shaper, 20" Kelley, s. g. |
| Mitering mche., No. 5 Fox. | Shear, p.w.r. squaring, Niagara, 14 ga. |
| Oil separator, Reed & Curtis. | Sprocket b. & t. mche., Baker. |
| Planer, 21"x18"x4 1/2' Putnam. | Wire s. & c.o.mch., 3-16"x4' Adt, new |
| | Wire s. & c.o.mch., 3-16"x10' Shuster. |

If you don't see the tool that you need listed, that is no sign that we don't have it. Write for quotations on your requirements, and see what we can offer.

During the dull times incident to the European war, we are taking the opportunity to rearrange and renew our shop equipment. We therefore offer the following machine tools, all in first-class running order:

- 1—17"x 6' Standard Engine Lathe with compound rest and box turret on carriage.
- 1—17"x 6' Standard Engine Lathe with compound rest.
- 1—17"x 6' Standard Engine Lathe with plain rest.
- 1—17"x 6' Standard Engine Lathe, compound rest interchangeable with turret on carriage.
- 1—17"x 6' Standard Engine Lathe, 3 Step Cone Friction Double Back Gear.
- 1—17"x 8' Standard Engine Lathe, 3 Step Cone Friction Double Back Gear.
- 1—17"x10' Standard Engine Lathe with compound rest.
- 1—17"x12' Standard Engine Lathe with compound rest.
- 1—24" raised in sand to swing 27½"x10' Standard Engine Lathe with compound rest.
- 1—25"x10' Bradford Engine Lathe with compound rest.
- 1—28-36"x14' New Haven Engine Lathe, not screw cutting.
- 2—2"x24" Jones & Lamson (6 head) Flat Turret Lathes.
- 1—30"x30"x8' S. H. Smith-Silk Planer.
- 1—36"x36"x10' D. H. Pond Planer.
- 1—42"x42"x12' Wheeler Planer, one head.

THE GREAVES-KLUSMAN TOOL CO.,

Cincinnati, Ohio

In replacing our manufacturing equipment, we find the following first class Used Machine Tools, which we offer at attractive prices:

LATHES

- 16"x 8' Reed.
- 17"x 6' Gray.
- 18"x8' Lodge & Shipley, single pulley driven. (2).
- 20"x 8' Lodge & Shipley, q. c. g.
- 20"x10' Lodge & Shipley, q. c. g.
- 20"x12' Lodge & Shipley, q. c. g.
- 24"x 8' Lodge & Shipley, q. c. g.

SPECIAL LATHES

- No. 3 Lodge & Shipley Rapid Reduction Lathe.
- 14"x 6' Towsley Speed Lathe.

METAL SAWS

- Globe Power Hack Saw, 8" cap.

MISCELLANEOUS MACHINES

- One Marion Double Grinder.
- One Marion Double Grinder on stand.
- One Diamond Combination Grinding and Polishing Stand.
- One Sturtevant Blower, Diameter of outlet 24".
- Universal Swivel Table for Radial Drill.
- Brown & Sharpe Grindstone Frame for 5"x36" Stone.
- One Mueller Grindstone Frame for 4"x27" Stone.
- One 12"x40" Mumford Molding Machine.
- One Ohio Planer, 24"x24"x12' with two heads on cross rail.

The Lodge & Shipley Machine Tool Co.

CINCINNATI, OHIO, U. S. A.

"New York's Greatest Clearing-House—J. J. McCabe"

"New York's Lowest Prices"

It rests with you—

Will you take advantage of These High-grade Tools at record low prices?

Most every shop man has been planning to buy some equipment "when the right time came." This is to let you know that the "right time" is here.

Half prices—and even less on these Tools—some of them practically good as the day they left the factory.

Lathes

All sizes, up to 63" swing—best standard makes.

New Lathes—18", 20" and 24" sw.—

"Schumacher, Boye & Emmes,"

"Fitchburg Machine Works," etc.

Boring Mills

100" swing—Betts—2 heads.

80" swing—Pond—2 heads.

72" swing—Niles—2 heads.

50" swing—Bullard—2 heads.

42" swing—Bullard—2 heads.

37" swing—Bullard—2 heads.

Planers

All sizes—best makes.

Slotters

Punches

Shears

Get complete list—now out.

Turret Lathes

"Gisholt" 24" swing; heavy, double carriage.

"Potter & Johnston" 22" swing semi-automatic.

"Jones & Lamson" 3x36"; geared hd.

"Jones & Lamson" 2x24"; geared hd.

Milling Machines

"Brown & Sharpe" large size, table 84x17½, speedbox.

"Brown & Sharpe" table 60x16"

"Bement-Miles" planer type 24"x8'.

"Bement-Miles" planer type 24"x11'.

Other Millers—universal and plain.

Radial Drills

6' arm "Pond," heavy.

5½' arm "Prentice Bros.," heavy.

5' arm half universal, "Warren."

4½' arm half universal, "Niles."

Other Radials, plain and universal.

10-16 ft. Upright Boring and Turning Mill

Extension type—"Niles Tool Wks."

—double head—fitted up for motor

drive—complete—still set up in

place where used—can be seen in

actual operation.

14-20 ft. Upright Boring and Turning Mill

Extension type—"Niles Tool Wks."

—double head—with slotting at-

tachment complete—inspection at

plant where used—A-1 condition.

10 ft. x 26 ft. Planer

"Niles Tool Works" standard pat-

tern planer—planes 10'x10'x26' in

length inside—table pockets—four

(4) heads—complete—ready for

motors—A-1 condition—practically

good as ever—still set up as used.

J. J. McCabe, 30 Church St., New York

"New Britain"
Pressed Steel Tool Racks
With Seamless Trays



Made in sizes 20x26-in. and 26x32-in., furnished in any one of four styles of mountings—quick-facing ball swivel casters; with feet; with ball-thrust pivot base, or in the truck type, with either two or three trays. Also furnished with drawer

Here is a remarkably strong tool rack, made of No. 16 gauge pressed steel, yet it has less than half the weight of gray iron—an important item in utility as well as in cost of transportation. Rivet holes pierce only the top edge of the trays, so that they are oil tight. The rounded internal corners are easy to keep clean. The apron flange, dropped full depth of the trays, gives them a finished appearance and makes them stiff and substantial.

Our Shop Furniture Catalog shows lots of good things for facilitating production. Write for it.

The New Britain Machine Co.
60 Chestnut St., New Britain, Conn.

